

CD RECEIVER

KDC-8021/M9021/X859

KENWOOD

SERVICE MANUAL

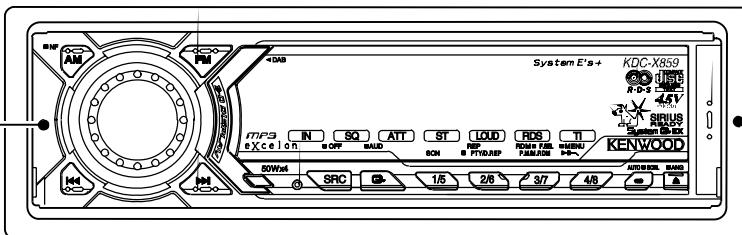
© 2002-2 PRINTED IN KOREA
B51-7901-00 (K) 3169

The CD mechanism information is not in this service manual.
Please, refer to service manual.

KDC-M9021/X859 : X92-4460-0x(B51-7891-00)
KDC-8021 : X92-4450-01(B51-7889-00)

KDC-X859

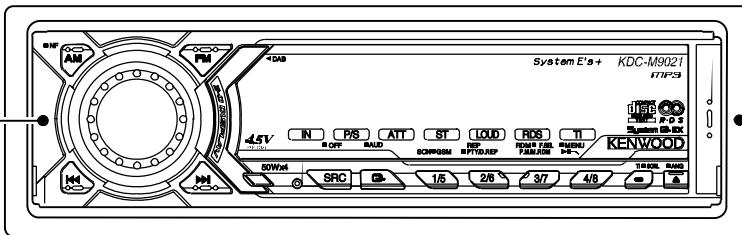
Panel assy
(A64-2567-02)



Escutcheon assy
(B07-3007-03)

KDC-M9021

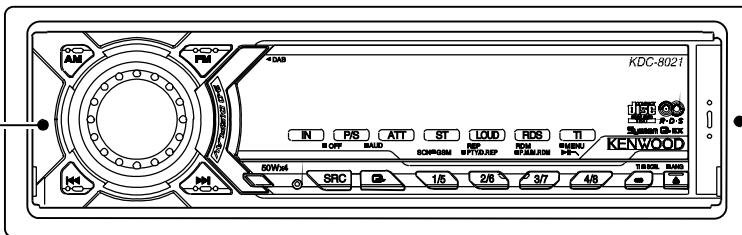
Panel assy
(A64-2587-02)



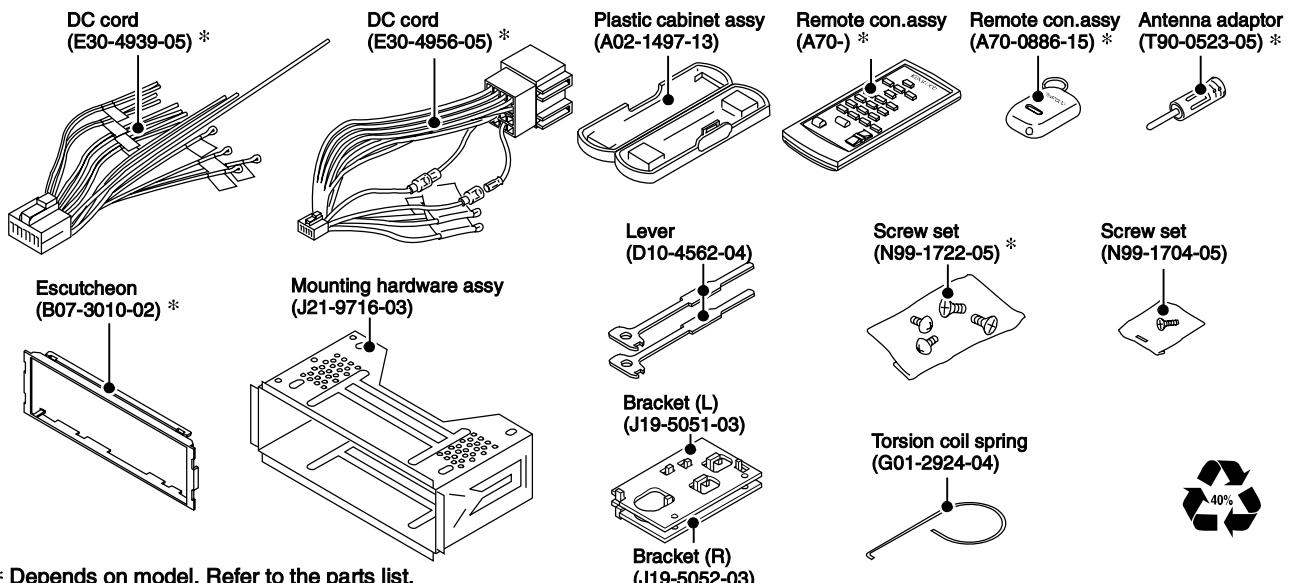
Escutcheon assy
(B07-3007-03)

KDC-8021

Panel assy
(A64-2588-02)



Escutcheon assy
(B07-3007-03)

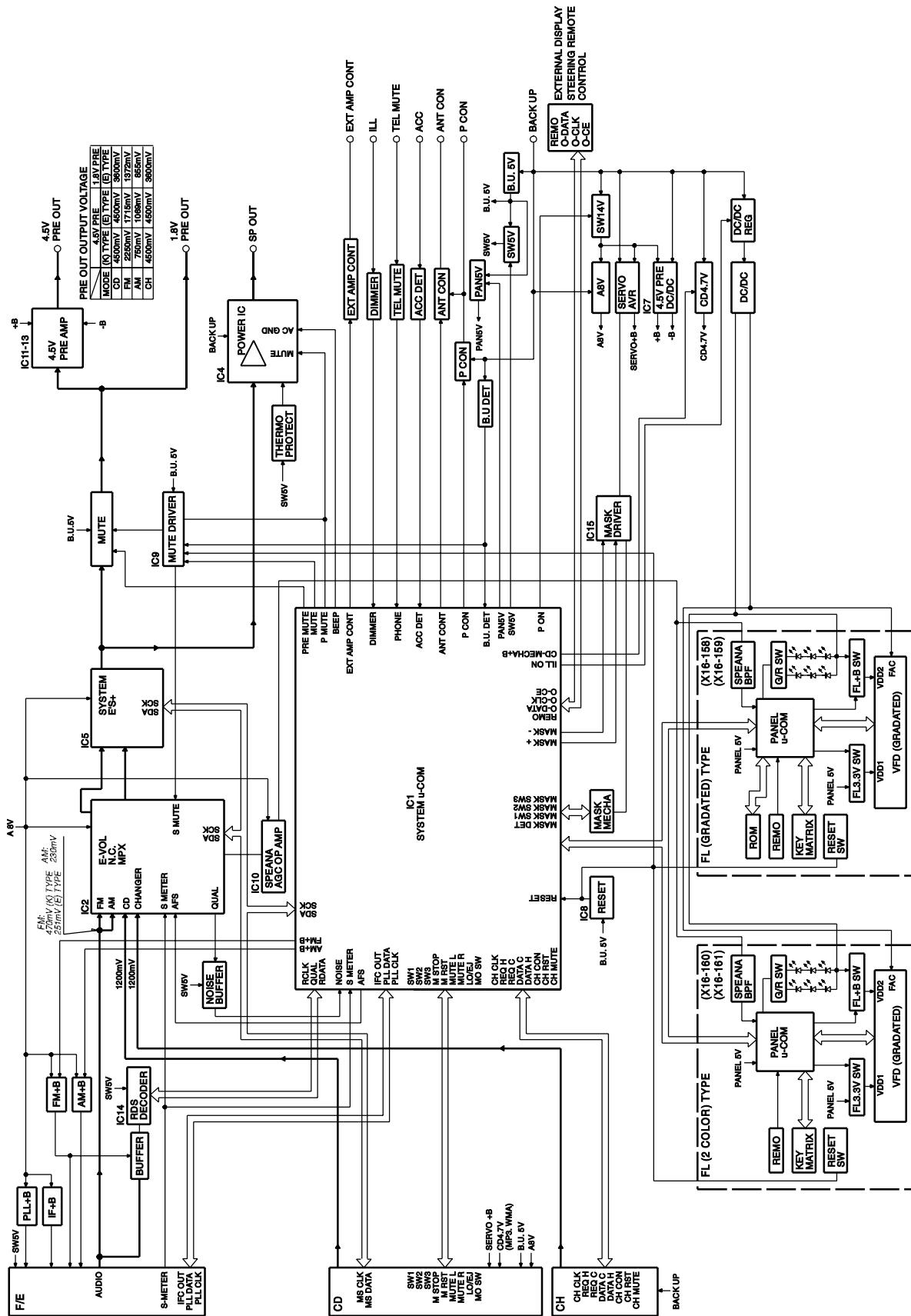


* Depends on model. Refer to the parts list.



KDC-8021/M9021/X859

BLOCK DIAGRAM



KDC-8021/M9021/X859

COMPONENT DESCRIPTION

ELECTRIC UNIT (X25-91xx-xx)

Element	Purpose & Function	Operation, Condition, Compatibility
IC1	System uCOM	
IC2	E.Vol & N.C. MPX	
IC3	Power Supply IC	Error detection in combination with Q8. Audio 8 V AVR drive.
IC4	POWER IC	50Wx4ch
IC5	HPF & LPF & NON-FAD SW	
IC6	CD mechanism 4.7 V power SW-Reg.	
IC7	4.5 V PRE-OUT DC/DC	
IC8	RESET IC	"L" when Mask uCOM detection voltage is 3.7 V or less or when Flash uCOM detection voltage is 4.2 V or less.
IC9	Muting logic IC	4 inputs. NOR gate x 4.
IC10	Spectrum analyzer opamp	
IC11	4.5 V PRE-OUT opamp	Front output.
IC12	4.5 V PRE-OUT opamp	Rear output
IC13	4.5 V PRE-OUT opamp	Non-Fad. output
IC14	RDS decoder	
IC15	Motor Dr. IC	For storage mechanism
IC16	E2PROM	
Q1,2	BU 5V AVR	Darlington connected.
Q3	SW 5V	ON when the base is "L".
Q4,5	SW 14V	Turns Q7 ON when the base of Q5 is "H".
Q6,7	AUDIO 8V AVR ON/OFF SW	8 V ON/OFF SW. Q7 turns ON when the base of Q6 is "H".
Q8	AUDIO 8V AVR	
Q9	Servo power AVR	
Q10	CD 4.7V SW-Reg ON/OFF SW	CD 4.7 V SW-Reg ON/OFF SW. ON when the base is "H".
Q11,12	FL & ILLUM AVR ON/OFF SW	FL & ILLUM AVR ON/OFF SW. Q12 turns ON when the base of Q11 is "H".
Q13,14	FL & ILLUM AVR ON/OFF SW	
Q15,16	4.5 V PRE-OUT DC/DC converter AVR	Darlington connected.
Q17~22	Regulated power supply Tr.	
Q23,24	POWER-ANT SW	Q24 turns ON when the base of Q23 is "H".
Q25,28	POWER-CONT SW	Q25 turns ON when the base of Q28 is "H".
Q26,27	POWER-CONT circuit output protection	Upon detection of drop in the output voltage, these transistors turn Q25 OFF to protect the output. This prevents malfunction of Q26 when the POWER-CONT SW turns ON.
Q29	External amp control SW	Turns ON when a pulse is input to the base.
Q30	Dimmer control SW	Small In is detected when the base is "H".
Q31	B-U detection	"L" when B-U is present. "H" when B-U is absent or momentary power down is detected."
Q32	Acc detection	"L" when Acc is present.
Q33	Lch MUTE Dr	L-ch audio muting SW drive. ON when the base is "L".
Q34	Rch MUTE Dr	R-ch audio muting SW drive. ON when the base is "L".
Q35	Spectrum analyzer AGC Tr.	
Q36	E-Vol muting SW	When the base is "L", turns ON to mute E-Vol.
Q37	Noise buffer	
Q38	AUDIO MUTE SW	Mutes the Front R CH hen the base is "H".
Q39	AUDIO MUTE SW	Mutes the Front L CH hen the base is "H".
Q40	AUDIO MUTE SW	Mutes the Rear R CH hen the base is "H".
Q41	AUDIO MUTE SW	Mutes the Rear L CH hen the base is "H".
Q42	AUDIO MUTE SW	Mutes the Non-FAD R CH hen the base is "H".
Q43	AUDIO MUTE SW	Mutes the Non-FAD L CH hen the base is "H".
Q45,46	FM+B SW	Q46 turns ON when the base of Q45 is "H".
Q47,48	AM+B SW	Q48 turns ON when the base of Q47 is "H".
Q49	Composite signal buffer	
Q50	PANEL 5V SW	When the panel is attached, the base goes "L", turning the transistor ON to supply 5 V to the panel.

KDC-8021/M9021/X859

COMPONENT DESCRIPTION

SWITCH UNIT (X16-16xx-xx)

Element	Purpose & Function	Operation, Condition, Compatibility
IC1	PANEL u-com	
IC2	SPECTRUM ANALYZER IC	
IC3	REMOTE CONTROL IC	
IC4	BUFFER IC	It is changed into 3.3V from 5V
IC5	3.3V REGULATOR	The power supply of IC and UFD(Logic) which are driver by 3.3V
Q1	REMO ON SW	The power supply of IC2 and IC3 is turned on when the base level goes "L".
Q2	SC-CON SW	ON when the base level goes "H".
Q3,4	FL+B SW	FL+B(VDD2) is turned on when Q3's base level goes "H".
Q5	FL BLK SW	ON when the base level goes "H".
Q6,7	KEY ILLUMINATION SW	Lights green key-illumination when Q6's base level goes "H". Lights red key -illumination when Q7's base level goes "H".

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

PANEL MICROCOMPUTER UPD703032GFA03 (X16)

Pin	Name	I/O	Processing Operation
1	SC DATA	I/O	Data communication with System Controller.
2	MC CLK	I	Clock input from System Controller.
3	NC	O	
4	DATA1	O	Data communication with FL driver.
5	CLK	O	Clock communication with FL driver (rise data shifting).
6	NC	O	
7	DATA 2	O	Data communication with FL driver
8	CLK IN	I	Data communication with FL driver (fall data shifting)
9	EVDD	-	PAN.5V
10	EVSS	-	GND
11	RED LED	O	ILL Red switching. "H": ON. "L": OFF.
12	GREEN LED	O	ILL Green switching. "H": ON. "L": OFF.
13	REMO	I	Input from Remote Control IC.
14	LATCH	O	Latch for FL driver. "H": Through. "L": Latch.
15	GCP	O	Brightness gradation control.
16	REMO ON	I/O	Remote Control IC power ON/OFF. "Hi-Z": OFF. "L)": ON.
17-19	NC	O	
20	BLK	O	Display for FL driver. Blanking display. "H": Display ON. "L": Display OFF.
21	TEST	I	INTEMALLY CONNECTED
22-33	NC	O	
34	RESET	I	RESET
35	XT1	-	GND
36	XT2	-	
37	REGC	-	Regulator capacitance connection.
38	X2	-	MAIN CLOCK
39	X1	-	MAIN CLOCK
40	VSS	-	GND
41	VDD	-	PAN.5V
42-47	NC	O	
48	FL +3.3V	O	FL +3.3V ON/OFF "H":ON "L":OFF
49	FL +B	I/O	FL+B ON/OFF "H":FL+B ON "Hi-Z":FL+B OFF
50-57	NC	O	
58	BVDD	-	PAN.5V
59	BVSS	-	GND
60-73	NC	O	
74	AVDD	-	PAN.5V
75	AVSS	-	GND
76	AVREF	-	
77	F01	I	BPF(63Hz)
78	F02	I	BPF(150Hz)
79	F03	I	BPF(330Hz)
80	F04	I	BPF(1kHz)
81	F05	I	BPF(3.3kHz)
82	F06	I	BPF(10kHz)
83	WAVE IN	I	Voice input.
84	KR3	I	KEY RETURN
85	KR2	I	KEY RETURN
86	KR1	I	KEY RETURN
87	VOLUME B	I	VOLUME CONTROL
88	VOLUME A	I	VOLUME CONTROL
89	SC REQ	O	Request communication with System Controller. "H": Requested. "L": Standby.
90	NC(FAC IN)	O	(FAC data input) (Flicker prevention circuit input)
91	SC CON	I	Panel uCOM control. During operation: "L".
92	OPEN KEY	I	OPEN KEY "H":ON "L":OFF

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

PANEL MICROCOMPUTER UPD703032GFA03 (X16)

Pin	Name	I/O	Processing Operation
93	SRC KEY	I	SOURCE KEY "H":ON "L":OFF
94	VREF CON	O	Vref control. During operation: "H"
95	MC REQ	I	Request from System uCOM. "H": Requested.
96	KS4	I/O	Key scan. (Hi-Z/L scan)
97	KS3	I/O	Key scan (Hi-Z/L scan). (Flash uCOM write port) (DI)
98	KS2	I/O	Key scan (Hi-Z/L scan). (Flash uCOM write port) (DO)
99	KS1	I/O	Key scan (Hi-Z/L scan). (Flash uCOM write port) (CLK)
100	MC DATA	I	Data communication with System uCOM.

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

SYSTEM MICROCOMPUTER uPD703033AGF-***-3BA (X25)

Pin	Name	I/O	Purpose	Processing Operation	Processing During Non-Operation	Processing During STBY
1	MC-DATA	I/O	DATA line to Panel uCOM.		Hi-Z	Hi-Z
2	MC-CLK	O	CLK line to Panel uCOM.		Panel attached: "H". Detached: "Hi-Z".	H
3	PLL-DATA	I/O	DATA I/O to/from F/E.		Hi-Z	Hi-Z
4	PLL-CLK	I/O	CLK I/O to/from F/E.		Hi-Z	Hi-Z
5	AM+B	I/O	AM power supply terminal.	During AM operation: "H".	Hi-Z	Hi-Z
6	FM+B	I/O	FM power supply terminal.	During FM operation: "H". With RDS and RBDS only, last FM: "H".	Hi-Z	Hi-Z
7	CH-CON	O	CH control output.	ON:H OFF:L	L	L
8	CH-RST	O	CH reset output.	Normally "H". In recovery after system RST, remains H for 400 ms then goes L"	L	L
9	Evdd	-	Positive power supply terminal.			
10	Evss	-	GND terminal.			
11	AFS	O	Time constant switching upon noise detection.	During FM seek and AM search: L. During reception; H.	Last FM with RDS and RBDS: "H". Without RDS and RBDS: "L".	L
12	BEEP	O	Beep output terminal.		L	L
13	REMO	I	Wired remote input terminal.	Since there is no wired remote control, connected to GND.		
14	N.C	O	Output Open. Not used.			L
15	N.C	O	Output Open. Not used.			L
16	IC2-SDA	I/O	IC2, IC5 and CD mechanism DATA line.		Hi-Z	Hi-Z
17	IC2-SCL	I/O	IC2, IC5 and CD mechanism CLOCK line.		Hi-Z	Hi-Z
18	PRE-MUTE R	O	PREOUT(Rch)MUTE	"L" when M MUTE R is L (during CD playback). "L" during momentary power down. "H" only in 2-zone operation.	"H" (other sources than CD)	H
19	PRE-MUTE L	O	PREOUT(Lch)MUTE	"L" when M MUTE R is L (during CD playback). "L" during momentary power down. "H" only in 2-zone operation.	H (other sources than CD)	H
20	N.C	O	Output Open. Not used.	L		
21	TEST	-	Test pin.	Normal: "L". During		
22	N.C(SVR)	O		power OFF: "H" in 5 sec. Power OFF: H		"H" ("L" in 5 sec. after Power OFF).
23	P-MUTE	O	Power IC MUTE terminal.	Power OFF: L All OFF: "L". Tel muting: "L"	H	"L" ("H" in 5 sec. after P-ON OFF).
24	P-STBY	O	Power IC STBY terminal.	POWER IC ON: H POWER IC OFF : L ALL OFF: H	L	L
25	MUTE	O	Muting terminal.	ON: Open. OFF: "L". Time constant: 0.48 ms (with both ON/OFF)	L	Open ("H" in 5 sec. after P-ON OFF).

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

SYSTEM MICROCOMPUTER uPD703033AGF-*-3BA (X25)**

Pin	Name	I/O	Purpose	Processing Operation	Processing During Non-Operation	Processing During STBY
26	SW5V	I/O	5V power supply terminal.	ON: L OFF: Hi-Z	Hi-Z	"L ("Hi-Z" in 10 sec. after Power OFF).
27	BU-DET	I	Momentary power down detection terminal.	B-U present: "L". B-U absent (momentary power down): "H".		
28	ACC-DET	I	Acc detection terminal.	Acc present: "L". Acc absent: "H".		
29	N.C	O	Output Open. Not used.			L
30	DIMMER	I	Small detection terminal.	ON: L OFF: H		
31	EXT-AMP-CONT	O	External amp control terminal (200 ms).	"L for 40 ms: Bass Boost Off. "L" for 70 ms: Bass Boost Low. "L" for 100 ms: Bass Boost High.	H	H
32	P-CON	I/O	Power control terminal.	POWER ON: H POWER OFF: Hi-Z ALL OFF: Hi-Z	Hi-Z	Hi-Z
33	ANT-CON	O	Antenna control terminal.	TUNER, TI ON: H Other sources in last FM with RDS: "H". Other sources in last FM with RBDS, TI ON: "H".	L	L
34	RESET	I	Reset input terminal.	Normal: "H". Reset: "L".		
35	XT1	I	Sub-clock connection terminal.	Clock count. Working while power is OFF.		
36	XT2	-	Sub-clock connection terminal.			
37	REGC	-	Output terminal for capacitor of Reg. in uCOM.			
38	X2	-	Main clock connection terminal.	During power ON: Oscillating. During power OFF and momentary power down: Oscillation stopped.		
39	X1	I	Main clock connection terminal.			
40	Vss	-	GND terminal.			
41	Vdd	-	Positive power supply terminal.			
42	CLKOUT	O	Internal system clock terminal.			
43	CD MECHA+B	I/O	CD 4.7 V output terminal.	With CD source: "L". Other sources than CD: "Hi-Z". Models without MP3 or WMA: Output "L". ON: 50 ms faster than M-STOP. OFF: 50 ms slower.	Hi-Z	Hi-Z
44	P-ON	I/O	SW 14 V control terminal.	POWER ON: H POWER OFF: Hi-Z	Hi-Z	"H ("Hi-Z" in 10 sec. after power OFF).
45	O-DATA	I/O	External display DATA terminal.	Models without external display: Output "L".	L	L

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

SYSTEM MICROCOMPUTER uPD703033AGF-*-3BA (X25)**

Pin	Name	I/O	Purpose	Processing Operation	Processing During Non-Operation	Processing During STBY
46	O-CLK	I/O	External display CLK terminal.	Models without external display: Output "L".	L	L
47	O-CE	I/O	External display CE terminal.	Models without external display: Output "L".	L	L
48	ILL-ON	I/O	FL and ILLUM output terminal.	ON:H OFF: Hi-Z	Hi-Z	Hi-Z
49	TYPE0	I	Destination type switching port.			
50	TYPE1	I	Destination type switching port.			
51	TYPE2	I	Destination type switching port.			
52	IC2TYPE0	I	IC2 destination type terminal.	Default: "L".		
53	IC2TYPE1	I	IC2 destination type terminal.	Default: "L".		
54	N.C	O	Output Open. Not used.			
55	N.C	O	Output Open. Not used.			
56	M-MUTE R	I	Muting request from CD mechanism. (R CH)	ON:L		
57	M-MUTE L	I	Muting request from CD mechanism. (L CH)	ON:L		
58	BVdd	-	Positive power supply terminal.			
59	BVss	-	GND terminal.			
60	M-RST	O	Reset output to CD mechanism.	Normal: "H". Reset: "L". According to the mechanism control specification.	H	H
61	M-STOP	O	Stop request to CD mechanism.	STOP: L CD: H	L	L
62	N.C	O	Output Open. Not used.			L
63	CD-SW3	I	CD Down SW detection terminal.	Chucking: "H".	L	
64	LO/EJ	I/O	CD mechanism Loading/Ejection switching.	Stop, braking: "Hi-Z". Loading: "L". Ejection: "H".	Hi-z	Hi-Z
65	MOSW	O	CD mechanism motor power supply SW.	Loading, ejection, braking: "H".	L	L
66	N.C	O	Output Open. Not used.			L
67	PAN-RESET	O	Reset output to Panel uCOM.	Normal: "H". Reset & momentary power down: "L".	Panel attached: "H". Panel detached: "L".	Panel attached: "H". Panel detached: "L".
68	MC-REQ/PANEL	I/O	REQ terminal to Panel uCOM/Panel detection.	Panel attached: "L".	Hi-z	Hi-Z
69	N.C	O	Output Open. Not used.			L
70	PAN5V	I/O	Panel 5 V control terminal.	Panel attached: "L". Panel detached: "Hi-Z".		Panel attached: "L". Detached: "Hi-Z".
71	MASK+B	O	Mask mechanism sub-motor output terminal.		L	
72	MASK-B	O	Mask mechanism sub-motor output terminal.		L	
73	AVCONT	O	AD reference voltage control output.	Same timing as P-ON. During operation: "H"	L	L

KDC-8021/M9021/X859

MICROCOMPUTER'S TERMINAL DESCRIPTION

SYSTEM MICROCOMPUTER uPD703033AGF-*-3BA (X25)**

Pin	Name	I/O	Purpose	Processing Operation	Processing During Non-Operation	Processing During STBY
74	Avdd	-	Positive power supply terminal.			
75	Avss	-	GND terminal.			
76	Avref	I	A/D converter reference voltage supply terminal.			
77	PHONE	I	Phone detection terminal.	TEL muting: 1 V or less. NAVI muting: 2.5 V or more.		
78	E2PROMDET	I	E2PROM detection terminal.	E2PROM present: "H". E2PROM absent: "L".		
79	MASK-SW1	I	Mask mechanism position detection.	Refer to the 01MASK mechanism position detection chart		
80	MASK-SW2	I	Mask mechanism position detection.	Refer to the 01MASK mechanism position detection chart		
81	MASK-SW3	I	Mask mechanism position detection.	Refer to the 01MASK mechanism position detection chart		
82	MASK-DET	I	Mask mechanism detection.	Mechanism present: "L". Mechanism absent: "H".		
83	NOISE	I	FM noise detection terminal.			
84	S-METER	I	S-meter detection terminal.			
85	R-DATA	I	RDS decoder DATA input terminal.	Models without RDS and RBDS: Connected to GND.		
86	R-QUAL	I	RDS decoder OUAL input terminal.	Models without RDS and RBDS: Connected to GND.		
87	IFC-OUT	I	F/E IFC OUT input terminal.	Station detected: 2.5 V or more.		
88	CH-MUTE	I	Muting request from CH.			
89	CH-REQH	O	Request output to CH.	Request: "L".	H	H
90	R-CLK	I	RDS decoder CLK input terminal.	Models without RDS and RBDS: Connected to GND.		
91	CH-REQC	I	Request input from CH.	Requested: "L".		
92	SC-REQ	I	Communication request from Panel uCOM.			
93	CD-SW1	I	Loading SW detection terminal.	Loading start: "L". Take care that the logic in power OFF is different from Flip.		
94	CD-SW2	I	12 cm disc detection SW terminal.	12 cm disc: "L". Take care that the logic in power OFF is different from Flip.		
95	N.C	O	Output Open. Not used.			L
96	N.C	O	Output Open. Not used.			L
97	CH-DATAC	I	DATA input terminal from CH.			
98	CH-DATAH	O	DATA output terminal to CH.		Last state held.	L
99	CH-CLK	I/O	CLK input/terminal from/to CH.			Hi-Z
100	SC-DATA	I	DATA line from Panel uCOM.			Hi-Z

KDC-8021/M9021/X859

TEST MODE

Test Mode

1. How to enter test mode

While holding the [1/5] key and the [3/7] key, reset the unit.

2. How to exit from test mode.

While holding down the [4/8] key, reset the unit.

Note: Does not exit from test mode ACC OFF, Power OFF or momentary power down

3. Test mode reset status

- Sources are all OFF
- All display segment lit up
- Volume at -10dB (shows 30 on display)
- LOUD is OFF.
- CRSC is OFF regardless of whether switching function is provided.
- SYSTEM Q is in FLAT
- BEEP sounds at momentarily pressing at any time.

4. Special displays in Tuner

When the following displays appear in tuner mode it shows a problem with the front end.

- "TNE2P NG" : F/E is not aligned and EEPROM is in reset (no settings) such as when shipped.
- "TNCON NG" : Cannot communicate with F/E (front end).

5. K3I switching

Each time the Preset 6 key is pressed in Tuner mode, switches one at a time through the following sequence:

AUTO → Forced Wide → Forced Middle → Forced Narrow → AUTO.

When reset, displays the following in AUTO.

- AUTO : FMA
- Forced Wide : FMW
- Forced Middle : FMM
- Forced Narrow : FMN

6. CD receiver test mode specifications

- No automatic ejection during reset-start. Does not make a CD check in reset with a CD loaded.
- Using the Track up key jumps to the following tracks.
No. 9 → No. 15 → No. 10 → No. 11 → No. 12 → No. 13 → No. 14 → and back to No. 9
- Using the Track down key moves 1 track downwards from the track being played.
- When the total number of MP3 or WMA disc tracks is 9 or less, playback starts from the first track.
- With the model equipped with the MP3 or MP3/WMP mechanism, the mechanism model name and version number are displayed at the bottom line.

7. Audio items

- Momentarily pressing the Q key calls up audio adjustment mode.
- Pressing the * key on the remote control calls up audio alignment mode.
- An initial item is set to Feder.
- Continuous forward is disabled on the remote control.
- Bass/Middle/Treble/NF are settable in 3 steps of MIN / Center / MAX with the Track up/down keys.

- Balance is settable in 3 steps of Left MAX / Center / Right MAX with the Track up/down keys.

- Fader is settable in 3 steps of Rear MAX / Center / Front MAX with the Track up/down keys.

- HPF is settable in 2 steps of THRU/220Hz with the Track up/down keys.

- LPF is settable in 2 steps of THRU/120Hz with the Track up/down keys.

- Bass f / Bass Q / Bass EXT / Middle f / Middle Q / Treble f do not appear in the audio alignment.

8. Menu items

- The DNPP/SBF keys on the remote control calls up Menu mode.

- Continuous forward is disabled on the remote control.

9. Backup current measurement

The MUTE terminal turns off 2 seconds (not 15 seconds) after being reset in ACC off (backup on).

(The panel and CD mechanisms are disabled during this time.)

10. Special displays during All-Off with all lamps on

The following displays appear when the preset keys are pressed with all display segment lit up.

[1/5]key	<ul style="list-style-type: none"> • Version display (8 digits; Mo. Dy. Hr. Mn.) (Display) SYS XXXXXXXX system microprocessor PAN XXXXXXXX panel microprocessor • Serial No. display (8 digits) (Display) SNo XXXXXXXX
[2/6]key	<ul style="list-style-type: none"> • Press once: Power on time display (Does not count during All-Off) Press long: Clears the time display during power-on. (Display) PonTim XXXXX MAX 65535(time) • Press once: CD operating time display. Press long: Clears CD operating time. (Display) CDTIme XXXXX MAX 65535(time)
[3/7]key	<ul style="list-style-type: none"> Press once: CD eject count display. Press long: Clears CD eject count display. (Display) EjeTim XXXXX MAX 65535(count)
[4/8]key	<ul style="list-style-type: none"> Press once: PANEL open/shut count display. Press long: Clears PANEL open/shut count display. (Display) PnCntr XXXXX MAX 65535(count)

11. Channel space switching (K/M type)

While holding the [1/5] key and the [4/8] key, reset the unit.

12. Others

- Automatic panel close is disabled when CD is inserted.
- Panel operation is disabled at Power-ON or Power-OFF.
- Panel open and closes with press long the Q key.
- No displays such as "CODE OFF" during Power-ON.
- Pressing the TI (AUTO) key during changer operation turns on 2zone. Cancel by pressing the TI (AUTO) key again. The P/S dot is lit during 2zone.
- Pressing the [4/8] key for 1 second or more during All OFF, calls up the Mask Key (security) write mode.

KDC-8021/M9021/X859

TEST MODE

Security items

1. Forced power-ON mode (all models)

Even when writing is permitted by the security function (mask key), Power-on can be set for a 30 minute period each time the reset key is pressed while holding down the Q key and [4/8] keys. After 30 minutes elapses, can only be restored by using reset.

2. How to register the security code for EEPROM (F/E) replacement (coded security models)

- (1) Enter the test mode. (See "1. How to enter the test mode")
- (2) Press the [4/8] key to enter the MENU MODE.
- (3) While "Security" is displayed, press and hold the Track up or down key for a second to enter the security registration mode.
- (4) Enter the code using the FM/AM/Track up/Track down keys.
FM key: Increments the number.
AM key: Decrements the number.
Track up key: Moves the cursor to the right.
Track down key: Moves the cursor to the left.
- (5) Hold down the Track up key for at least 3 seconds and the message, "RE-ENTER" appears, so once again enter the code according to Step 4 above.
- (6) Hold down the Track up key for at least 3 seconds, and the message, "APPROVED" appears.
- (7) Cancel test mode. (See, 2. How to cancel the test mode.)
Note: All clear cannot be performed on the security code for this model.

3. Simple way to clear the security code (K type only)

- (1) During code request mode, press the Track Up key for at least 3 seconds while holding down the AUTO key. (--- will disappear)
- (2) Enter, "KCAR" with the remote controller as described below. (Same as on 01 model.)
 - Press the remote controller 5 key twice, and press the Track Up key. (Enters a "K")
 - Press the remote controller 2 key three times, and press the Track Up key. (Enters a "C")
 - Press the remote controller 2 key once, and press the Track Up key. (Enters an "A")
 - Press the remote controller 7 key twice, and press the Track Up key. (Enters an "R")
- (3) Security function is canceled and unit sets to All-Off mode.
- (4) Code request mode appears if a mistake was made in entering the numbers.

4. Method of writing the Mask key while the EEPROM is in the initial status

- (1) Enter the test mode. (See "1. How to enter the test mode")
- (2) Press the [4/8] key to enter the Mask key registration mode. "TRANSMIT1" should be displayed now.
The display at this time should show "< >" in place of "[]".

(3) Point the Mask key remote toward the light sensor, and press and hold its key for more than 0.5 second.

(4) When "TRANSMIT2" is displayed, press and hold the key on the Mask key remote for more than 0.5 second again. The first and second counter codes are not compared at this time.

(5) When "APPROVED" is displayed, the write operation is complete. Now the demonstration mode is initiated and the test mode is terminated.

(Note) In the same way as previous models, if 30 minutes have elapsed with no code written, an error occurs and the power is turned OFF.

5. Method of initializing the Mask key

(How to reset the unit from the Mask key approved condition to the factory condition)

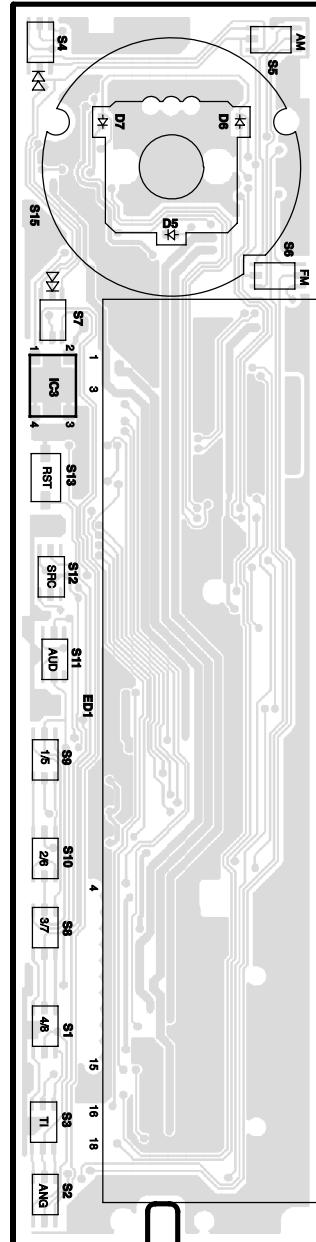
- (1) Enter the test mode. (See "1. How to enter the test mode")
- (2) "TRANSMIT1" is displayed and the Mask key entry request mode is initiated. The display at this time should show "* *" in place of "[]".
- (3) Press and hold the key on the Master key remote for more than 3 seconds.
- (4) When "TRANSMIT2" is displayed, press and hold the key on the Master key remote for more than 3 seconds again.
- (5) When "APPROVED" is displayed, the Mask key is cleared, the demonstration mode is initiated, the test mode is terminated and the unit returns to the factory condition.

6. Method of clearing all Mask key-related data

- (1) Enter the test mode. (See "1. How to enter the test mode")
- (2) Press the [4/8] key to enter the Mask key registration mode. "TRANSMIT1" should be displayed now.
- (3) Point the Master key remote toward the light sensor, and press and hold its key for more than 3 seconds (until the level display shows the full condition).
- (4) When "TRANSMIT2" is displayed, hold the key on the Mask key remote for more than 3 seconds again. If "TRANSMIT1" is displayed in place of "TRANSMIT2", restart the procedure from step 3.
- (5) When "APPROVED" is displayed, all security data is cleared and the unit returns to the condition before Mask key writing with the EEPROM in the initial status

PC BOARD(Component side view)

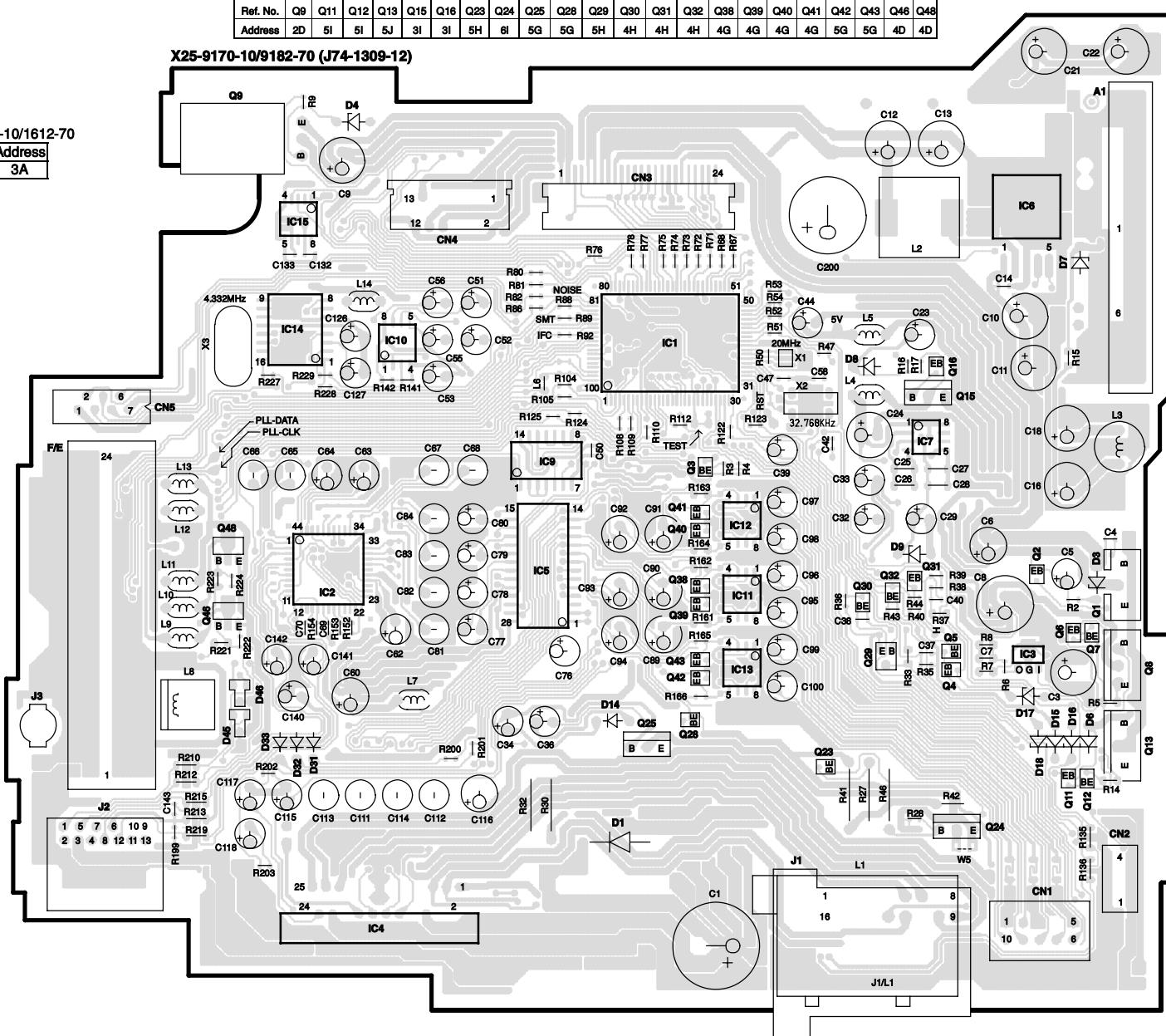
X16-1600-10/1612-70 (J74-1311-12)



X16-1600-10/1612-70
Ref.No. Address
IC3 3A

X25-9170-10/9182-70																						
Ref. No.	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC9	IC10	IC11	IC12	IC13	IC14	IC15	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Address	3G	4E	5I	6E	4F	2I	3H	4F	3E	4G	4G	5G	3E	2E	4I	4I	4G	5I	5I	5I	5I	5J
Ref. No.	Q9	Q11	Q12	Q13	Q15	Q16	Q23	Q24	Q25	Q28	Q29	Q30	Q31	Q32	Q38	Q39	Q40	Q41	Q42	Q43	Q46	Q48
Address	2D	5I	5I	5J	3I	3I	5H	6I	5G	5G	5H	4H	4H	4H	4G	4G	4G	5G	5G	4D	4D	4D

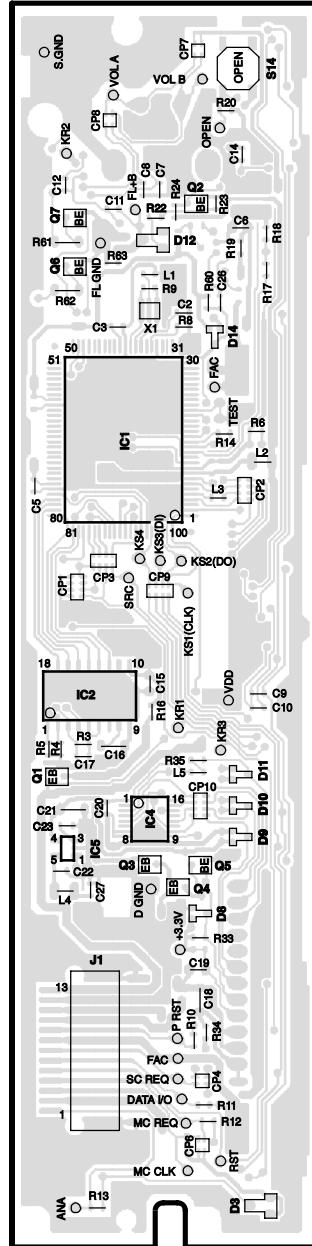
X25-9170-10/9182-70 (J74-1309-12)



PC BOARD(Foil side view)

卷之三

X16-1600-10/1612-70 (J74-1311-12)



X16-1600-10/1612-7

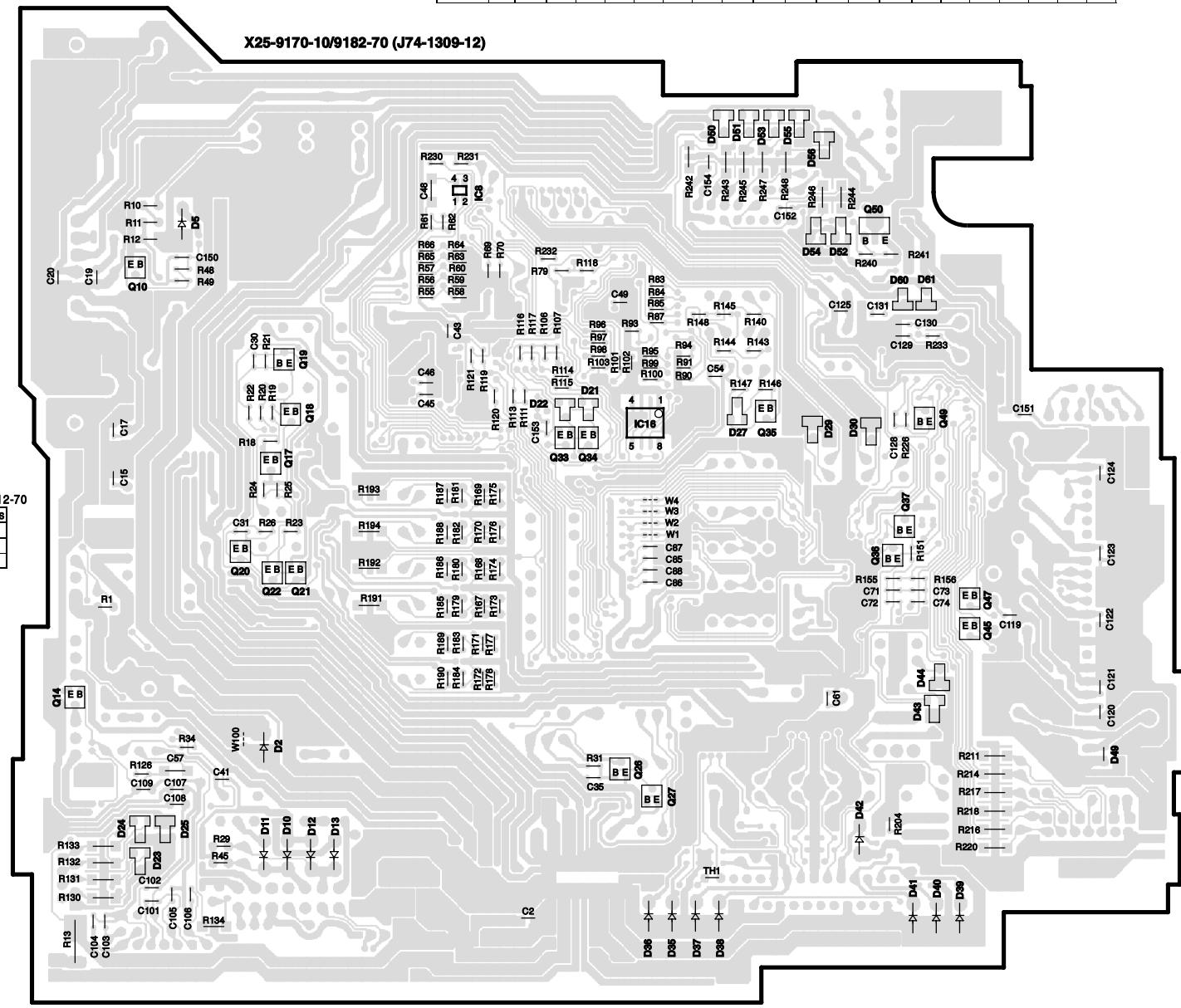
R

1

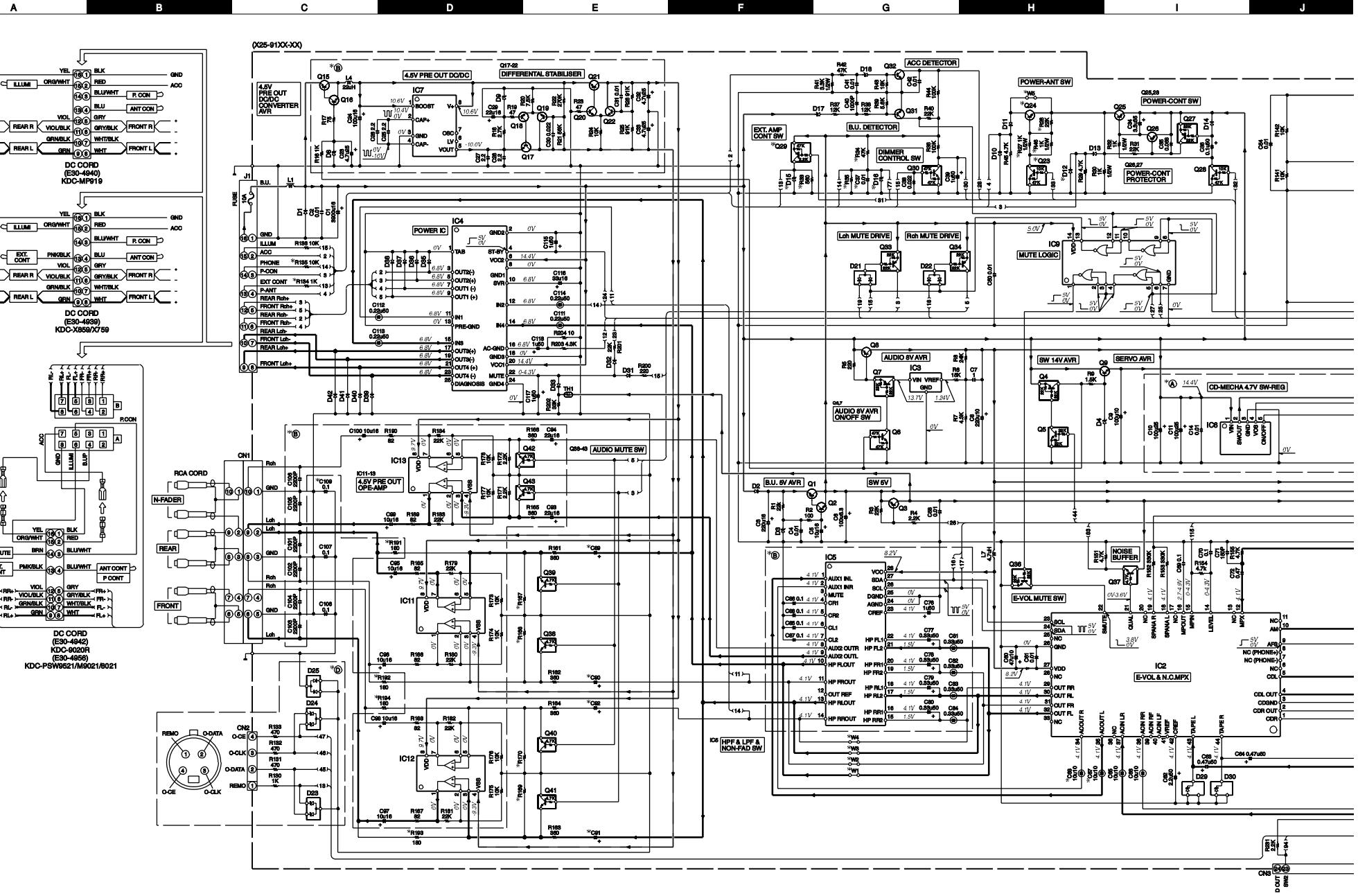
X25-9170-10/91

Ref. No.	Ic8	Ic16	Q10	Q14	Q17	Q18	Q19	Q20	Q21	Q22	Q26	Q27	Q33	Q34	Q35	Q36	Q37	Q45	Q47	Q49	Q50
Address	2P	3Q	3N	5M	4O	3O	3O	4N	4O	4O	5Q	6Q	4D	4P	3Q	4R	4R	5S	4S	3S	2R

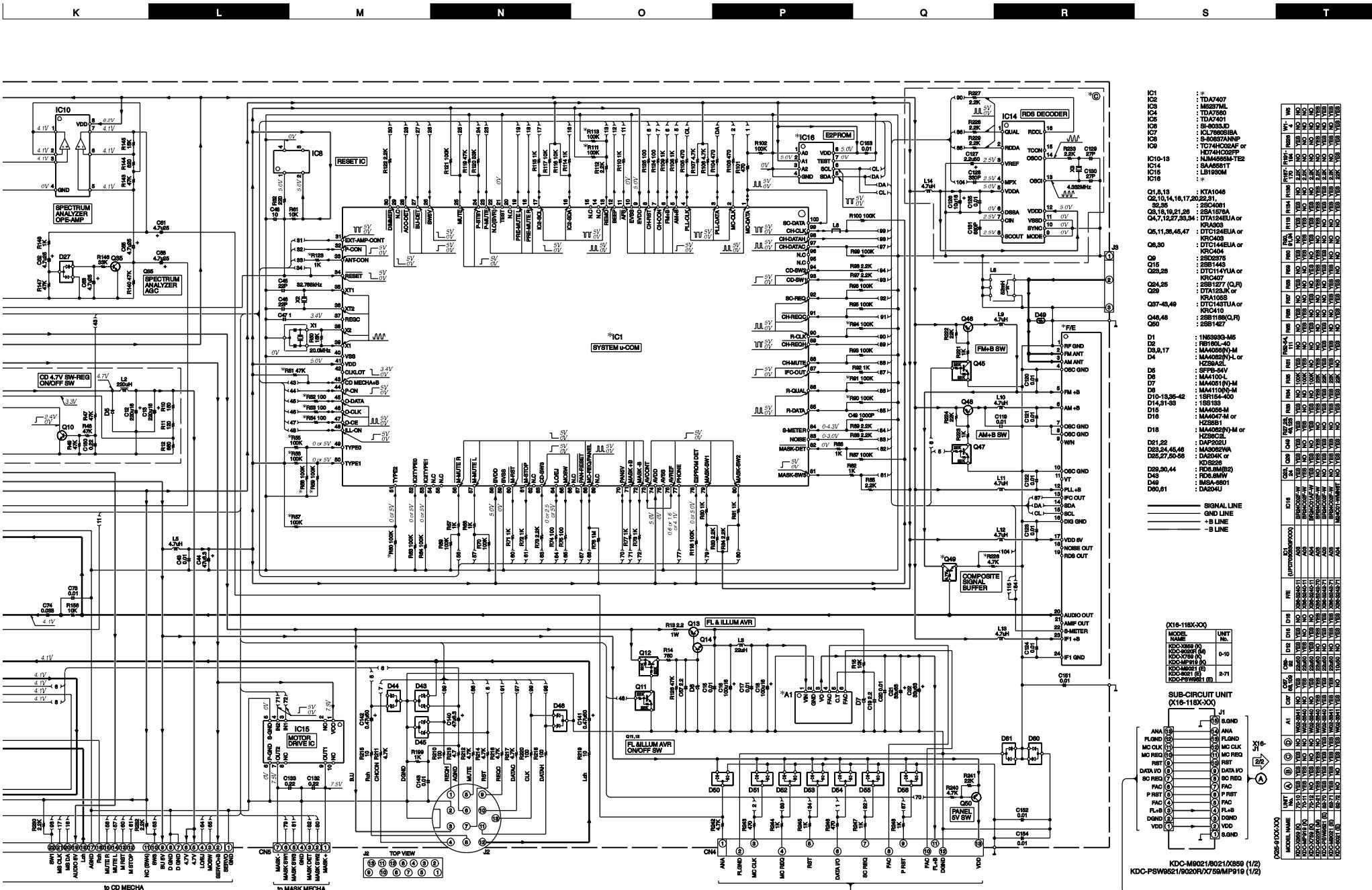
X25-9170-10/9182-70 (J74-1309-12)



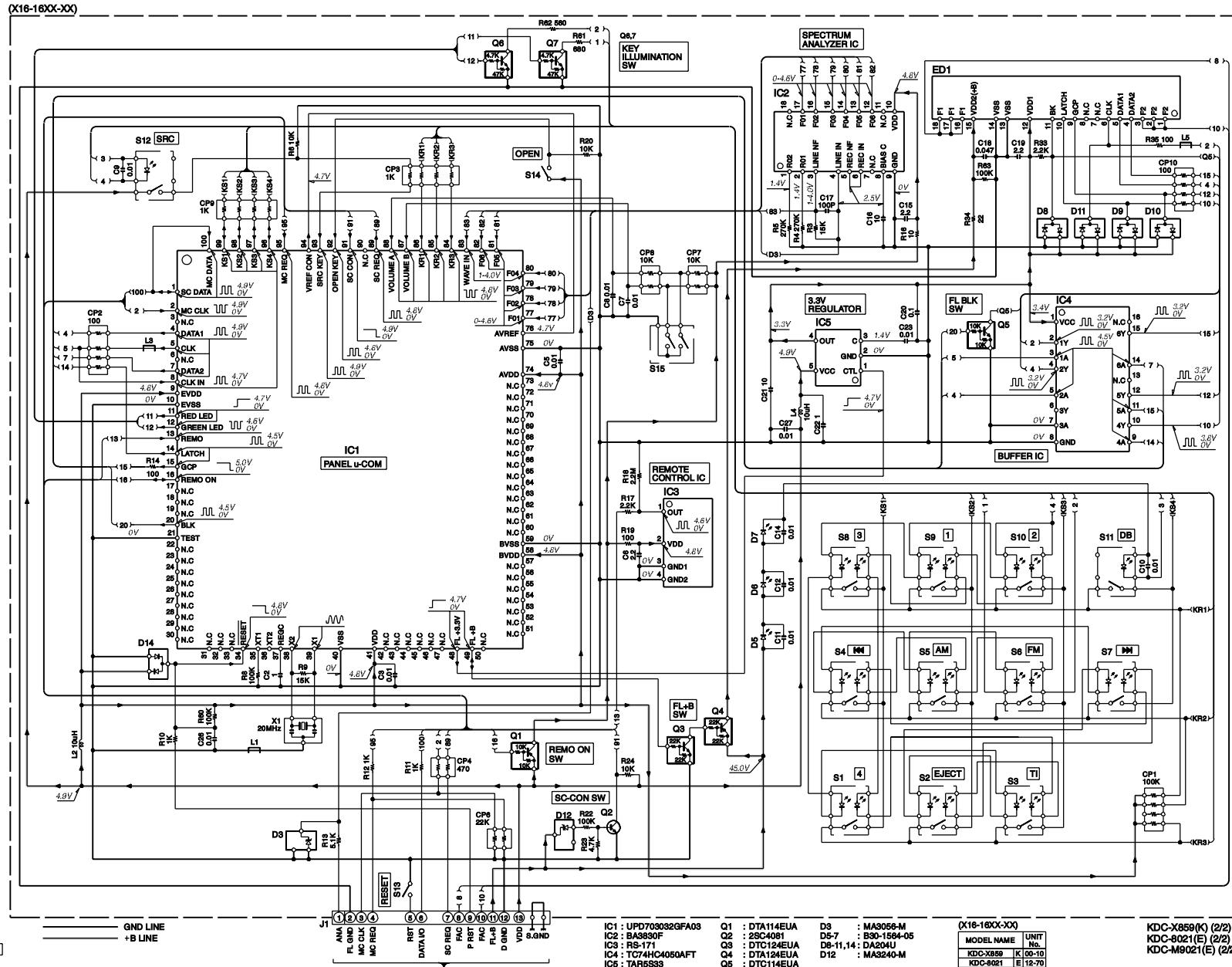
Refer to the schematic diagram for the value of resistors and capacitors



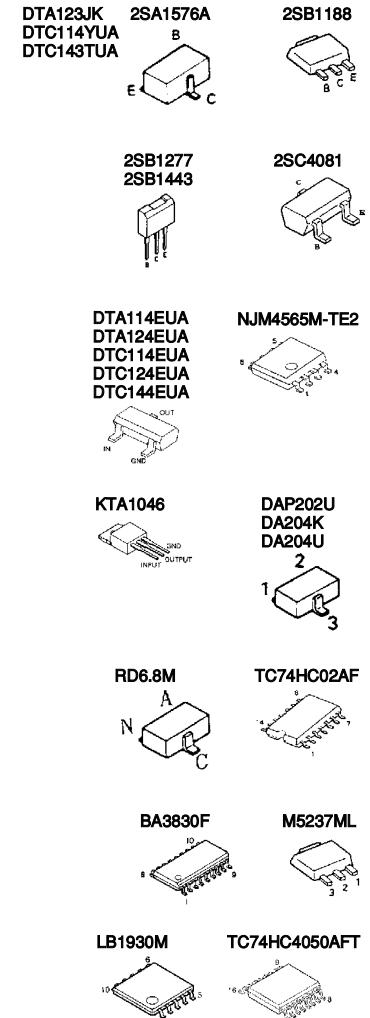
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



U V W X Y Z AA AB AC AD



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

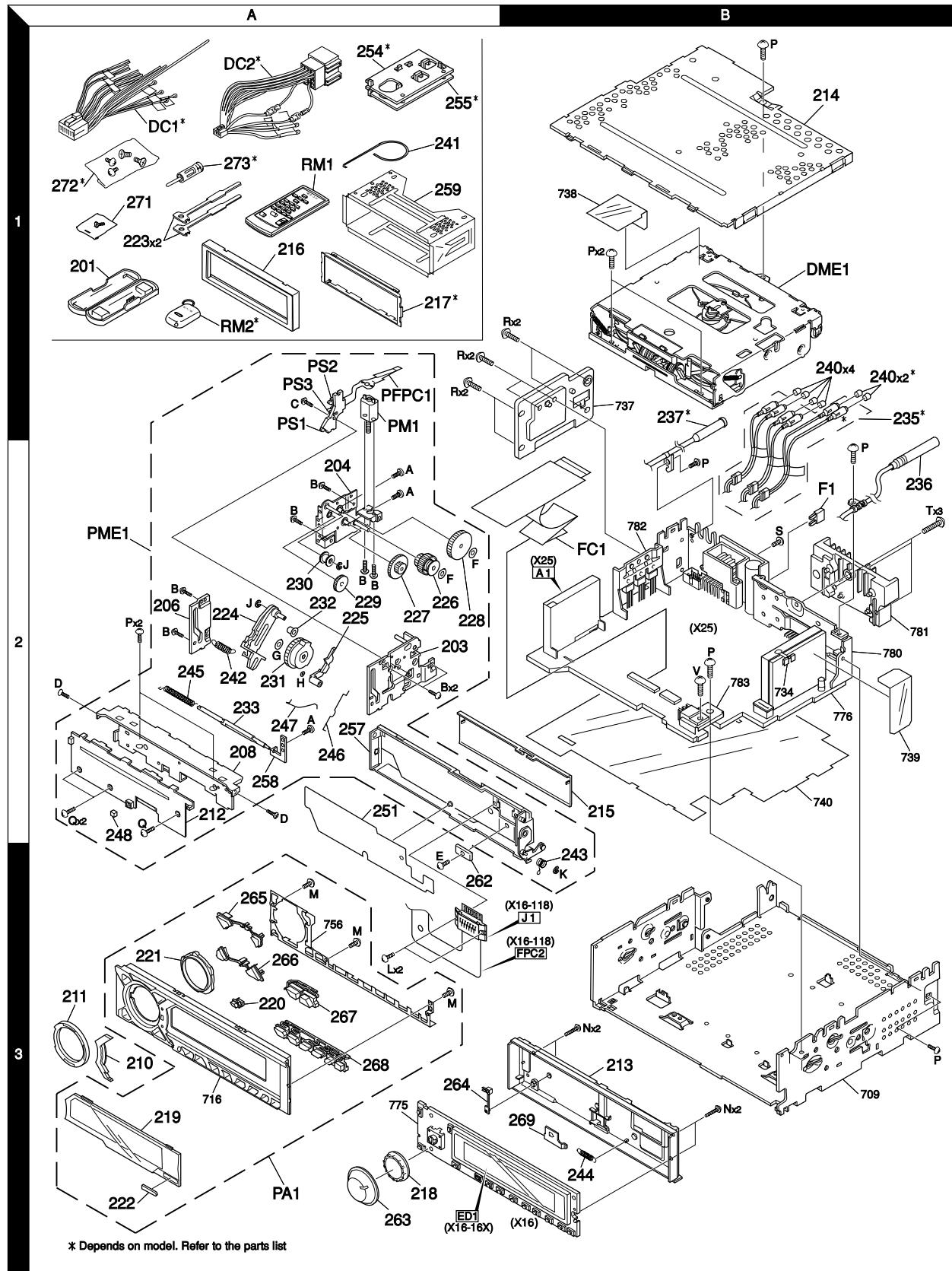


KDC-8021/M9021/X859

KENWOOD

KDC-8021/M9021/X859

EXPLODED VIEW



Parts with exploded numbers larger than 700 are not supplied.

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d e d w	N d e d w	Parts No.	Description	Dest Inatl on	Ref.No.	A d e d w	N d e d w	Parts No.	Description	Dest Inatl on	
KDC-8021/M9021/X859												
201	1A	A02-1497-13	PLASTIC CABINET ASSY			235	1B	*	E30-6101-05	CORD WITH PINPLUG (3PRE)	E1	
203	2A	A10-4807-13	CHASSIS CALKING ASSY			235	1B	*	E30-6104-05	CORD WITH PINPLUG (2PRE)	E2	
204	2A	A10-4810-13	CHASSIS CALKING ASSY			236	1B	*	E30-6056-05	CORD WITH PLUG (ANT)		
206	2A	A10-4893-04	CHASSIS CALKING ASSY			237	2B	*	E30-6057-05	CORD WITH DIN CONNECTOR (DISP)	E1E2	
208	2A	A10-4924-02	CHASSIS			DC1	1A		E30-4939-05	DC CORD	K	
210	3A	*	A21-4169-03	DRESSING PANEL		DC2	1A		E30-4956-05	DC CORD (ISO)	E1E2	
211	3A	*	A21-4170-03	DRESSING PANEL		FC1	2B	*	E39-0437-05	FLAT CABLE		
212	2A	A22-2865-03	SUB PANEL ASSY			240	2B	F29-0049-05	INSULATING COVER			
213	3B	*	A46-1752-01	REAR COVER		F1	2B	F52-0006-05	FUSE(MINI BLADE TYPE) 10A			
214	1B	*	A52-0805-02	TOP PLATE		241	1A	G01-2924-04	TORSION COIL SPRING			
PA1	3A	*	A64-2567-02	PANEL ASSY	K	242	2A	G01-3065-04	EXTENSION SPRING			
PA1	3A	*	A64-2587-02	PANEL ASSY	E1	243	2B	G01-3066-14	TORSION COIL SPRING			
PA1	3A	*	A64-2588-02	PANEL ASSY	E2	244	3B	G01-3069-04	EXTENSION SPRING			
PME1	2A	A10-4921-02	CHASSIS ASSY			245	2A	G01-3080-04	TORSION COIL SPRING			
RM1	1A	A70-2025-05	REMOTE CONTROLLER ASSY(RC-410)	K		246	2A	G09-2038-04	FORMED WIRE			
RM1	1A	A70-2026-05	REMOTE CONTROLLER ASSY(RC-420)	E1E2		247	2A	G09-2042-04	FORMED WIRE			
RM2	1A	A70-0886-15	REMOTE CONTROLLER ASSY(MASK)	E1E2		248	2A	G11-1927-04	CUSHION			
215	2B	B03-3073-12	DRESSING PLATE			251	2A	G16-1177-04	SHEET			
216	1A	B07-3007-03	ESCUOTHEON ASSY			249	1B	H10-4762-12	POLYSTYRENE FOAMED FIXTURE	E1E2		
217	1C	B07-3010-02	ESCUOTHEON	K		250	1B	H10-4764-12	POLYSTYRENE FOAMED FIXTURE	K		
218	3A	*	B09-0527-03	CAP (VOL)		251	1B	H25-0329-04	PROTECTION BAG (280X450X0.03)	K		
219	3A	*	B10-4148-01	FRONT GLASS	K	252	1B	H25-0337-04	PROTECTION BAG (180X300X0.03)			
219	3A	*	B10-4165-01	FRONT GLASS	E1	253	1B	H25-1108-04	PROTECTION BAG (100X300X0.03)			
219	3A	*	B10-4166-01	FRONT GLASS	E2	254	1A	J19-5051-03	PROTECTION BAG (280X450X0.03)	E1E2		
220	3A	*	B10-4152-04	FRONT GLASS		255	1A	J19-5052-03	ITEM CARTON CASE	K		
221	3A	*	B19-2133-03	LIGHTING BOARD		256	2A	J21-9651-13	ITEM CARTON CASE	E1		
222	3A	B43-1284-04	BADGE			257	2A	J21-9699-04	MOUNTING HARDWARE ASSY	E2		
-	-	B46-0100-50	WARRANTY CARD			258	2A	J21-9716-03	MOUNTING HARDWARE ASSY			
-	-	B46-0606-04	ID CARD	K		259	1A	J19-5052-03	BRACKET (L)	K		
-	-	B46-0632-04	ID CARD	E1E2		260	2A	J21-9699-04	BRACKET (R)	K		
-	-	B46-0645-03	USER CARD	K		261	1A	J21-9651-13	MOUNTING HARDWARE ASSY			
-	-	*	B46-0648-03	USER CARD	K	262	3B	J90-0999-04	GUIDE			
-	-	B58-1309-04	CAUTION CARD	E1E2		PFPC1	1A	J84-0122-04	FLEXIBLE PRINTED WIRING BOARD			
-	-	*	B64-2215-00	INSTRUCTION MANUAL (ENGLISH)	K	263	3A	*	K23-1062-03	KNOB (VOL)		
-	-	*	B64-2216-00	INSTRUCTION MANUAL (FRE.SPA.)	K	264	3A	*	K24-3646-04	KNOB (RESET)		
-	-	*	B64-2218-00	INSTRUCTION MANUAL (ENGLISH)	E1E2	265	3A	*	K25-1400-03	KNOB (FM/AM)		
-	-	*	B64-2219-00	INSTRUCTION MANUAL (FRE.GER.)	E1E2	266	3A	*	K25-1401-03	KNOB (UP/DOWN)		
-	-	*	B64-2220-00	INSTRUCTION MANUAL (DUT.ITA.)	E1E2	267	3A	*	K25-1402-03	KNOB (SRC)		
-	-	*	B64-2221-00	INSTRUCTION MANUAL (SPA.POR.)	E1E2	268	3A	*	K25-1403-03	KNOB (PRESET)		
223	1A	D10-4562-04	LEVER			269	3B	K29-7017-03	KNOB (LOCK)			
224	2A	D10-4563-04	ARM ASSY			270	1A	N99-1704-05	SCREW SET			
225	2A	D10-4590-04	ARM			271	1A	N99-1722-05	SCREW SET			
226	2A	D13-2135-04	GEAR ASSY			272	1A	N09-4400-05	MACHINE SCREW			
227	2A	D13-2138-04	GEAR			A	2A	N09-4401-05	MACHINE SCREW			
228	2A	D13-2139-04	GEAR			B	2A	N09-4427-05	TAPITTE SCREW			
229	2A	D13-2140-04	GEAR			C	1A	N19-2154-04				
230	2A	D13-2141-14	GEAR ASSY			D	2A	N09-4448-05	MACHINE SCREW			
231	2A	D13-2165-03	GEAR ASSY			E	3A	N09-4449-05	MACHINE SCREW			
232	2A	D14-0754-04	ROLLER			F	2A	N19-2155-04	FLAT WASHER			
233	2A	D14-0760-03	ROLLER			G	2A	N19-2156-04	FLAT WASHER			
235	1B	*	E30-6054-05	CORD WITH PINPLUG (3PRE)	K	H	2A	N19-2156-04	FLAT WASHER			
						J	2A	N29-0522-05	RETAINING RING			

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

△ indicates safety critical components.

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d d	N e w	Parts No.	Description	Dest Inatl on	Ref.No.	A d d	N e w	Parts No.	Description	Dest Inatl on
K	3B		N29-0523-05	RETAINING RING		CP7 ,8			R90-0726-05	MULTI-COMP 10K X2	
L	3A		N38-2025-46	PAN HEAD MACHIN SCREW		CP9			R90-0724-05	MULTI-COMP 1K X4	
M	3A		N80-2005-46	PAN HEAD TAPTTIE SCREW		CP10			R90-1014-05	MULTI-COMP 100 X4	
N	3B		N09-4473-05	MACHINE SCREW		R3			RK73GB2A153J	CHIP R 15K J	1/10W
P	1B		N83-3005-46	PAN HEAD TAPTTIE SCREW		R4 ,5			RK73GB2A274J	CHIP R 270K J	1/10W
Q	2A		N86-2004-45	BINDING HEAD TAPTTIE SCREW		R6			RK73GB2A103J	CHIP R 10K J	1/10W
R	1A		N83-3008-46	PAN HEAD TAPTTIE SCREW		R8			RK73GB2A104J	CHIP R 100K J	1/10W
PS1 -3	1A		S68-0856-05	PUSH SWITCH	E1E2	R9			RK73GB2A153J	CHIP R 15K J	1/10W
273	1A		T90-0523-05	ANTENNA ADAPTOR	E1E2	R10 -12			RK73GB2A102J	CHIP R 1.0K J	1/10W
273	1A		T90-0534-05	ANTENNA ADAPTOR		R13			RK73GB2A512J	CHIP R 5.1K J	1/10W
PM1	1A		T42-1034-04	MOTOR ASSY		R14			RK73GB2A101J	CHIP R 100 J	1/10W
DME1	1B		X92-4450-01	MECHANISM ASSY (DXM-6111W)	E2	R16			RK73GB2A100J	CHIP R 10 J	1/10W
DME1	1B		X92-4460-00	MECHANISM ASSY (DXM-6400W)	K	R17			RK73GB2A222J	CHIP R 2.2K J	1/10W
DME1	1B		X92-4460-01	MECHANISM ASSY (DXM-6401W)	E1	R18			RK73GB2A225J	CHIP R 2.2M J	1/10W
						R19			RK73GB2A101J	CHIP R 100 J	1/10W
						R20			RK73GB2A103J	CHIP R 10K J	1/10W
J1	3B		E58-0903-05	RECTANGULAR RECEPTACLE		R22			RK73GB2A104J	CHIP R 100K J	1/10W
FPC2	3B	*	J84-0121-12	FLEXIBLE PRINTED WIRING BOARD		R23			RK73GB2A472J	CHIP R 4.7K J	1/10W
						R24			RK73GB2A103J	CHIP R 10K J	1/10W
						R33			RK73GB2A222J	CHIP R 2.2K J	1/10W
						R34	*		RK73GB2A220J	CHIP R 22 J	1/10W
						R35			RK73GB2A101J	CHIP R 100 J	1/10W
						R60			RK73GB2A104J	CHIP R 100K J	1/10W
						R61	*		RK73EB2E681J	CHIP R 680 J	1/4W
						R62	*		RK73EB2E561J	CHIP R 560 J	1/4W
						S1 -10			S70-0856-05	TACT SWITCH	
						S11 ,12			S70-0857-05	TACT SWITCH	
						S13			S70-0851-05	TACT SWITCH	
						S14			S70-0864-05	TACT SWITCH	
						S15	*		T99-0431-05	ROTARY ENCODER	
						D3			HZM5.6N(B2)	ZENER DIODE	K
						D3			MA3056-M	ZENER DIODE	
						D3			02CZ5.6-Y	ZENER DIODE	
						D8 -11			DA204U	DIODE	
						D12	*		MA3240-M	ZENER DIODE	
						D14			DA204U	DIODE	
						ED1	*		CN2033M	FLUORESCENT INDICATOR TUBE	
						IC1	*		UPD703032GFA03	MI-COM IC	
						IC2			BA3830F	ANALOGUE IC	
						IC3			RS-171	ANALOGUE IC	
						IC4			TC74HC4050AFT	MOS-IC	
						IC5	*		TAR5S33	ANALOGUE IC	
						Q1			DTA114EUA	DIGITAL TRANSISTOR	
						Q1			KRA302	DIGITAL TRANSISTOR	
						Q2			2SC4081	TRANSISTOR	
						Q3			DTC124EUA	DIGITAL TRANSISTOR	
						Q3	*		KRC403	DIGITAL TRANSISTOR	
						Q4			DTA124EUA	DIGITAL TRANSISTOR	
						Q4			KRA303	DIGITAL TRANSISTOR	
						Q5			DTC114EUA	DIGITAL TRANSISTOR	
						Q5			KRC402	DIGITAL TRANSISTOR	
						Q6 ,7			DTC143ZUA	DIGITAL TRANSISTOR	

E: Europe K: North America M: Other Areas

W: Without Europe

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

△ indicates safety critical components.

25

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref.No.	A d d	N e w	Parts No.	Description			Dest Inati on	Ref.No.	A d d	N e w	Parts No.	Description			Dest Inati on
ELECTRIC UNIT (X25-91xx-xx)															
C1			C90-5377-05	ELECTRO	3900UF	16WV		C71			CC73GCH1H151J	CHIP C	150PF	J	
C2			CK73GB1H103K	CHIP C	0.010UF	K		C72			CK73GB1A474K	CHIP C	0.47UF	K	
C3			C90-2866-05	ELECTRO	220UF	16WV		C73			CK73GB1H103K	CHIP C	0.010UF	K	
C4			CK73GB1H103K	CHIP C	0.010UF	K		C74			CK73GB1E333K	CHIP C	0.033UF	K	
C5			CE04NW1C100M	ELECTRO	10UF	16WV		C74			CK73GB1H333K	CHIP C	0.033UF	K	
C6			CE04NW1J01M	ELECTRO	100UF	6.3WV		C76		*	CE04NW1H010M	ELECTRO	1.0UF	50WV	E1K
C7			CK73FB1C105K	CHIP C	1.0UF	K		C77 -80		*	CE04NW1H033M	ELECTRO	0.33UF	50WV	E1K
C8			CE04CW1A221M	ELECTRO	220UF	10WV		C81 -84		*	C90-5429-05	ELECTRO	0.33UF	50WV	E1K
C9			CE04CW1A101M	ELECTRO	100UF	10WV		C85 -88		*	CK73GB1C104K	CHIP C	0.10UF	K	E1K
C10,11			C90-2963-05	ELECTRO	100UF	25WV	E1K	C85 -88		*	CK73GB1H104K	CHIP C	0.10UF	K	E1K
C12,13			C90-5418-05	ELECTRO	220UF	16WV		C89 -92			C90-2597-05	ELECTRO	10UF	16WV	E2
C14,15			CK73GB1H103K	CHIP C	0.010UF	K		C89 -94			CE04CW1C220M	ELECTRO	22UF	16WV	E1K
C15			CK73GB1H103K	CHIP C	0.010UF	K		C95 -100			CE04NW1C100M	ELECTRO	10UF	16WV	E1K
C16			C90-2962-05	ELECTRO	100UF	16WV		C101-106			CK73GB1H222K	CHIP C	2200PF	K	E1K
C17			CK73GB1H103K	CHIP C	0.010UF	K		C107-109			CK73FB1H104K	CHIP C	0.10UF	K	E1K
C18			C90-2962-05	ELECTRO	100UF	16WV		C107,108			CK73FB1H104K	CHIP C	0.10UF	K	E2
C19			CK73FB1A225K	CHIP C	2.2UF	K		C111-114			C90-5296-05	NP-ELECT	0.22UF	50WV	
C20	*		C93-1218-05	CHIP C	0.010UF	K		C115			CE04NW1H010M	ELECTRO	1.0UF	50WV	
C21,22			C90-5375-05	ELECTRO	33UF	63WV		C116			CE04NW1C330M	ELECTRO	33UF	16WV	
C23			CE04NW1E4R7M	ELECTRO	4.7UF	25WV	E1K	C117			CE04NW1H010M	ELECTRO	1.0UF	50WV	
C24			C90-2962-05	ELECTRO	100UF	16WV		C118			C90-2935-05	ELECTRO	1.0UF	50WV	
C25-28			CK73EB1C225K	CHIP C	2.2UF	K		C120-125			CK73GB1H103K	CHIP C	0.010UF	K	
C29			CE04NW1C220M	ELECTRO	22UF	16WV		C126			CE04NW1C100M	ELECTRO	10UF	16WV	
C30			CK73GB1E223K	CHIP C	0.022UF	K		C127			CE04NW1H2R2M	ELECTRO	2.2UF	50WV	
C30			CK73GB1H223K	CHIP C	0.022UF	K		C128			CC73GCH1H331J	CHIP C	330PF	J	
C31			CK73GB1H103K	CHIP C	0.010UF	K		C129,130			CC73GCH1H270J	CHIP C	27PF	J	
C32,33			CE04NW1E4R7M	ELECTRO	4.7UF	25WV	E1K	C131			CC73GCH1H681J	CHIP C	680PF	J	
C34			CE04NW1V3R3M	ELECTRO	3.3UF	35WV		C132,133			CK73GB1A224K	CHIP C	0.22UF	K	
C35			CK73GB1C683K	CHIP C	0.068UF	K		C140			CE04NW0J470M	ELECTRO	47UF	6.3WV	
C36			CE04NW1H0R1M	ELECTRO	0.1UF	50WV		C141,142			CE04NW1HR47M	ELECTRO	0.47UF	50WV	
C37			CK73GB1H103K	CHIP C	0.010UF	K		C143			CK73GB1H103K	CHIP C	0.010UF	K	
C38			CK73GB1E223K	CHIP C	0.022UF	K		C150			CK73GB1A224K	CHIP C	0.22UF	K	
C38			CK73GB1H223K	CHIP C	0.022UF	K		C151-153			CK73GB1H103K	CHIP C	0.010UF	K	E1K
C39			CE04NW1H010M	ELECTRO	1.0UF	50WV		CN1		*	E41-0174-05	PIN ASSY			
C40			CK73GB1H102K	CHIP C	1000PF	K		CN2		*	E40-3248-05	PIN ASSY			E1E2
C41-43			CK73GB1H103K	CHIP C	0.010UF	K		CN3		*	E40-9527-05	FLAT CABLE CONNECTOR			
C44			CE04NW0J470M	ELECTRO	47UF	6.3WV		CN4		*	E41-0213-05	FLAT CABLE CONNECTOR			
C45,46			CC73GCH1H220J	CHIP C	22PF	J		CN5			E40-9557-05	FLAT CABLE CONNECTOR			
C47			CK73GB0J105K	CHIP C	1.0UF	K		J1			E40-5031-05	FLAT CABLE CONNECTOR			
C48			CK73EB0J106K	CHIP C	10UF	K		J2			E58-0863-15	RECTANGULAR RECEPTACLE			
C49			CK73GB1H102K	CHIP C	1000PF	K		J3			E56-0834-05	CYLINDRICAL RECEPTACLE			
C50			CK73GB1H103K	CHIP C	0.010UF	K		L1			E04-0154-05	RF COAXIAL CABLE RECEPTACLE			
C51-53			CE04NW1E4R7M	ELECTRO	4.7UF	25WV		L2			L33-1170-05	CHOKE COIL ASSY			
C54			CK73GB1H103K	CHIP C	0.010UF	K		L3			L33-1819-05	CHOKE COIL			
C55,56			CE04NW1E4R7M	ELECTRO	4.7UF	25WV		L4			L33-1029-05	SMALL FIXED INDUCTOR			E1K
C56			CK73GB1H102K	CHIP C	1000PF	K		L5			L40-2205-91	SMALL FIXED INDUCTOR(22UH,J)			
C57			CE04NW1C470M	ELECTRO	47UF	16WV		L6			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)			
C58			CK73GB1H103K	CHIP C	0.010UF	K		L7			L33-1039-05	LINE FILTER COIL			
C59			CE04NW1H2R2M	ELECTRO	2.2UF	50WV		L8			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)			
C60			CE04NW1C470M	ELECTRO	47UF	16WV		L9 -14			L78-0821-05	RESONATOR			
C61			CK73GB1H103K	CHIP C	0.010UF	K		X1			L92-0075-05	CHIP FERRITE			
C62			CE04NW1H2R2M	ELECTRO	2.2UF	50WV		X2			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)			
C63,64			CE04NW1HR47M	ELECTRO	0.47UF	50WV		X3			L33-1039-05	LINE FILTER COIL			
C65-68			C90-2850-05	ELECTRO	10UF	10WV	E1K	X3			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)			
C66			C90-2850-05	ELECTRO	10UF	10WV		X3			L77-2738-05	CRYSTAL RESONATOR			
C69,70			CK73GB1C104K	CHIP C	0.10UF	K		X3			L77-2002-05	CRYSTAL RESONATOR			
C69,70			CK73GB1H104K	CHIP C	0.10UF	K									

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

△ indicates safety critical components.

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

ELECTRIC UNIT (X25-91xx-xx)

Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on	Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on
S	2B		N80-3008-46	PAN HEAD TAPTTITE SCREW		R57 -59			RK73GB2A104J	CHIP R 100K J 1/10W	E1
T	2B		N83-3016-46	PAN HEAD TAPTTITE SCREW		R58			RK73GB2A104J	CHIP R 100K J 1/10W	K
V	2B		N86-2606-46	BINDING HEAD TAPTTITE SCREW		R60			RK73GB2A104J	CHIP R 100K J 1/10W	K
R1			RK73FB2B223J	CHIP R 22K J 1/8W		R61			RK73GB2A103J	CHIP R 10K J 1/10W	
R2			RK73GB2A101J	CHIP R 100 J 1/10W		R62			RK73GB2A221J	CHIP R 220 J 1/10W	
R3			RK73GB2A223J	CHIP R 22K J 1/10W		R63,64			RK73GB2A104J	CHIP R 100K J 1/10W	
R4			RK73GB2A222J	CHIP R 2.2K J 1/10W		R67,68			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R5			RK73FB2B221J	CHIP R 220 J 1/8W		R69,70			RK73GB2A104J	CHIP R 100K J 1/10W	
R6			RK73GB2A153J	CHIP R 15K J 1/10W		R71,72			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R7			R92-3032-05	CHIP R 4.3K D 1/10W		R73			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R8			R92-3047-05	CHIP R 24K D 1/10W		R74,75			RK73GB2A101J	CHIP R 100 J 1/10W	
R9			RK73GB2A152J	CHIP R 1.5K J 1/10W		R76			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R10	*		R92-3018-05	CHIP R 150 D 1/10W	E1K	R77,78			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R11	*		R92-3017-05	CHIP R 120 D 1/10W	E1K	R79			RK73GB2A104J	CHIP R 100K J 1/10W	
R12	*		R92-3021-05	CHIP R 680 D 1/10W	E1K	R80 -82			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R13			R92-2104-05	CHIP R 2.2 J 1W		R83 -85			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R14			RK73GB2A152J	CHIP R 1.5K J 1/10W		R86			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R15			RK73FB2B103J	CHIP R 10K J 1/8W		R87			RK73GB2A104J	CHIP R 100K J 1/10W	
R16			RK73GB2A102J	CHIP R 1.0K J 1/10W	E1K	R88,89			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R17			RK73GB2A750J	CHIP R 75 J 1/10W	E1K	R92			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R18			RK73GB2A272J	CHIP R 2.7K J 1/10W	E1K	R93			RK73GB2A104J	CHIP R 100K J 1/10W	
R19			RK73GB2A470J	CHIP R 47 J 1/10W	E1K	R95,96			RK73GB2A104J	CHIP R 100K J 1/10W	
R20			RK73GB2A752J	CHIP R 7.5K J 1/10W	E1K	R97,98			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R21			RK73GB2A563J	CHIP R 56K J 1/10W	E1K	R99,100			RK73GB2A104J	CHIP R 100K J 1/10W	
R22			RK73GB2A274J	CHIP R 270K J 1/10W	E1K	R101			RK73GB2A471J	CHIP R 470 J 1/10W	
R23			RK73GB2A470J	CHIP R 47 J 1/10W	E1K	R102			RK73GB2A104J	CHIP R 100K J 1/10W	
R24			RK73GB2A103J	CHIP R 10K J 1/10W	E1K	R103-105			RK73GB2A471J	CHIP R 470 J 1/10W	
R25 ,26			RK73GB2A913J	CHIP R 91K J 1/10W	E1K	R106,107			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R27			RD14DB2H102J	SMALL-RD 1.0K J 1/2W	K	R108-110			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R28			RK73GB2A223J	CHIP R 22K J 1/10W	K	R111			RK73GB2A104J	CHIP R 100K J 1/10W	E1E2
R29			RK73FB2B472J	CHIP R 4.7K J 1/8W		R112			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R30			RD14DB2H102J	SMALL-RD 1.0K J 1/2W		R113			RK73GB2A104J	CHIP R 100K J 1/10W	K
R31			RK73GB2A223J	CHIP R 22K J 1/10W		R114,115			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R32			RD14DB2H102J	SMALL-RD 1.0K J 1/2W		R116,117			RK73GB2A103J	CHIP R 10K J 1/10W	
R33			RK73FB2B561J	CHIP R 560 J 1/8W		R119			RK73GB2A473J	CHIP R 47K J 1/10W	
R34			RK73GB2A473J	CHIP R 47K J 1/10W	E1E2	R120			RK73GB2A333J	CHIP R 33K J 1/10W	
R35			RK73GB2A223J	CHIP R 22K J 1/10W	E1E2	R121			RK73GB2A104J	CHIP R 100K J 1/10W	
R35 ,36			RK73GB2A104J	CHIP R 100K J 1/10W	K	R122			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R36			RK73GB2A104J	CHIP R 100K J 1/10W	E1E2	R130			RK73EB2E102J	CHIP R 1.0K J 1/4W	E1E2
R37			RK73FB2B123J	CHIP R 12K J 1/8W		R131-133			RK73EB2E471J	CHIP R 470 J 1/4W	E1E2
R38			RK73GB2A123J	CHIP R 12K J 1/10W		R134			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R39			RK73GB2A562J	CHIP R 5.6K J 1/10W		R135,136			RK73EB2E103J	CHIP R 10K J 1/4W	E1E2
R40			RK73GB2A223J	CHIP R 22K J 1/10W		R136			RK73EB2E103J	CHIP R 10K J 1/4W	K
R41			RD14DB2H332J	SMALL-RD 3.3K J 1/2W		R140			RK73GB2A473J	CHIP R 47K J 1/10W	
R43			RK73GB2A183J	CHIP R 18K J 1/10W		R141,142			RK73GB2A103J	CHIP R 10K J 1/10W	
R44			RK73GB2A104J	CHIP R 100K J 1/10W		R143			RK73GB2A473J	CHIP R 47K J 1/10W	
R45			RK73FB2B472J	CHIP R 4.7K J 1/8W		R144			RK73GB2A212J	CHIP R 820 J 1/10W	
R46			RD14DB2H102J	SMALL-RD 1.0K J 1/2W	K	R145			RK73GB2A153J	CHIP R 15K J 1/10W	
R47 -49			RK73GB2A473J	CHIP R 47K J 1/10W	E1K	R146			RK73GB2A333J	CHIP R 33K J 1/10W	
R50			RK73GB2A153J	CHIP R 15K J 1/10W		R147			RK73GB2A473J	CHIP R 47K J 1/10W	
R51			RK73GB2A473J	CHIP R 47K J 1/10W	E1E2	R148			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R52 -54			RK73GB2A101J	CHIP R 100 J 1/10W	E1E2	R151			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R56			RK73GB2A104J	CHIP R 100K J 1/10W	K	R152,153			RK73GB2A334J	CHIP R 330K J 1/10W	
R56 -58			RK73GB2A104J	CHIP R 100K J 1/10W	E2	R154,155			RK73GB2A472J	CHIP R 4.7K J 1/10W	
						R156			RK73GB2A103J	CHIP R 10K J 1/10W	

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

△ indicates safety critical components.

E: Europe K: North America M: Other Areas
W: Without Europe

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

ELECTRIC UNIT (X25-91xx-xx)

Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on	Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on
R161-164			RK73FB2B361J	CHIP R 360 J 1/8W		D14			1SS133	DIODE	
R165,166			RK73GB2A361J	CHIP R 360 J 1/10W	E1K	D15			MA4056-M	ZENER DIODE	
R167-170			RK73FB2B222J	CHIP R 2.2K J 1/8W	E1K	D16			MA4047-M	ZENER DIODE	E1E2
R167-170			RK73FB2B223J	CHIP R 22K J 1/8W	E2	D17			MA4056(N)-M	ZENER DIODE	
R171,172			RK73GB2A222J	CHIP R 2.2K J 1/10W	E1K	D18			HZS6C2L	ZENER DIODE	K
R173-176			RK73FB2B103J	CHIP R 10K J 1/8W	E1K	D18			MA4062(N)-M	ZENER DIODE	
R177,178			RK73GB2A103J	CHIP R 10K J 1/10W	E1K	D21 ,22			DAP202U	DIODE	
R179-182			RK73FB2B223J	CHIP R 22K J 1/8W	E1K	D23 ,24			MA3062WA	ZENER DIODE	E1E2
R183,184			RK73GB2A223J	CHIP R 22K J 1/10W	E1K	D25			DA204K	DIODE	E1E2
R185-188	*		RK73FB2B820J	CHIP R 82 J 1/8W	E1K	D27			DA204K	DIODE	
R189,190	*		RK73GB2A820J	CHIP R 82 J 1/10W	E1K	D27			KDS226	DIODE	
R191-194			RK73EB2E181J	CHIP R 180 J 1/4W	E2	D29 ,30			RD6.8M(B2)	ZENER DIODE	
R199			RK73GB2A102J	CHIP R 1.0K J 1/10W		D31 -33			1SS133	DIODE	
R200			RK73GB2A221J	CHIP R 220 J 1/10W		D35 -42			1SR154-400	DIODE	
R201			RK73GB2A223J	CHIP R 22K J 1/10W		D43			RD6.8MW	ZENER DIODE	
R202			RK73GB2A333J	CHIP R 33K J 1/10W		D44			RD6.8M(B2)	ZENER DIODE	
R203			RK73GB2A432J	CHIP R 4.3K J 1/10W		D45 ,46			MA3062WA	ZENER DIODE	
R204			RK73GB2A100J	CHIP R 10 J 1/10W		D49			IMSA-6801	SURGE ABSORBER	
R210			RK73EB2E101J	CHIP R 100 J 1/4W		D50 -56			DA204K	DIODE	
R211,212			RK73EB2E472J	CHIP R 4.7K J 1/4W		D50 -56			KDS226	DIODE	K
R213			RK73EB2E4R7J	CHIP R 4.7 J 1/4W		D60 ,61			DA204U	DIODE	
R214			RK73EB2E472J	CHIP R 4.7K J 1/4W		IC1	*		UPD703033GFA03	MI-COM IC	E1K
R215			RK73EB2E100J	CHIP R 10 J 1/4W		IC1	*		UPD703033GFA04	MI-COM IC	E2
R216,217			RK73EB2E472J	CHIP R 4.7K J 1/4W		IC2			TDA7407	ANALOGUE IC	
R218			RK73EB2E101J	CHIP R 100 J 1/4W		IC3			M5237ML	IC(VOLTAGE REGULATOR)	
R219			RK73EB2E100J	CHIP R 10 J 1/4W		IC4			TDA7580	ANALOGUE IC	
R220			RK73EB2E101J	CHIP R 100 J 1/4W		IC5			TDA7401	ANALOGUE IC	E1K
R221			RK73FB2B102J	CHIP R 1.0K J 1/8W		IC6	*		SI-8033JD	ANALOGUE IC	E1K
R222			RK73GB2A223J	CHIP R 22K J 1/10W		IC7			ICL7660SIBA	ANALOGUE IC	E1K
R223			RK73FB2B102J	CHIP R 1.0K J 1/8W		IC8			S-80837ANNP	MOS-IC	
R224			RK73GB2A223J	CHIP R 22K J 1/10W		IC9			HD74HC02FP	MOS-IC	K
R226			RK73GB2A472J	CHIP R 4.7K J 1/10W		IC9			TC74HC02AF	MOS-IC	
R227-233			RK73GB2A222J	CHIP R 2.2K J 1/10W		IC10			NJM4565M-TE2	ANALOGUE IC	E2
R240			RK73GB2A472J	CHIP R 4.7K J 1/10W		IC10-13			NJM4565M-TE2	ANALOGUE IC	E1K
R241			RK73GB2A223J	CHIP R 22K J 1/10W		IC14			SAA6581T	ANALOGUE IC	
R242			RK73EB2E472J	CHIP R 4.7K J 1/4W		IC15			LB1930M	ANALOGUE IC	
R243			RK73EB2E471J	CHIP R 470 J 1/4W		Q1			KTA1046	TRANSISTOR	
R244,245			RK73EB2E102J	CHIP R 1.0K J 1/4W		Q2			2SC4081	TRANSISTOR	
R246			RK73EB2E471J	CHIP R 470 J 1/4W		Q3			2SA1576A	TRANSISTOR	
R247,248			RK73EB2E102J	CHIP R 1.0K J 1/4W		Q4			DTA124EUA	DIGITAL TRANSISTOR	
W1 -5			R92-1252-05	CHIP R 0 OHM J 1/16W	E2	Q4			KRA303	DIGITAL TRANSISTOR	K
W5			R92-1252-05	CHIP R 0 OHM J 1/16W	E1	Q5	*		DTC124EUA	DIGITAL TRANSISTOR	K
D1			1N5393G-M5	DIODE		Q6			KRC403	DIGITAL TRANSISTOR	K
D2			RB160L-40	DIODE		Q6	*		DTC144EUA	DIGITAL TRANSISTOR	K
D3			MA4056(N)-M	ZENER DIODE		Q7			KRC404	DIGITAL TRANSISTOR	K
D4			HZS9A2L	ZENER DIODE	K	Q7			DTA124EUA	DIGITAL TRANSISTOR	
D4			MA4082(N)-L	ZENER DIODE		Q8			KRA303	DIGITAL TRANSISTOR	
D5			SFPB-54V	DIODE		Q9			KTA1046	TRANSISTOR	
D6			MA4100-L	ZENER DIODE	E1K	Q10			2SD2375	TRANSISTOR	
D7			MA4051(N)-M	ZENER DIODE		Q11			2SC4081	TRANSISTOR	E1K
D8			MA4110(N)-M	ZENER DIODE	E1K	Q11	*		DTC124EUA	DIGITAL TRANSISTOR	
D9			MA4056(N)-M	ZENER DIODE		Q12			KRC403	DIGITAL TRANSISTOR	
D10 ,11			1SR154-400	DIODE		Q12			DTA124EUA	DIGITAL TRANSISTOR	K
D13			1SR154-400	DIODE		Q13			KRA303	DIGITAL TRANSISTOR	K
									KTA1046	TRANSISTOR	

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

△ indicates safety critical components.

E: Europe K: North America M: Other Areas
W: Without Europe

KDC-8021/M9021/X859

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

ELECTRIC UNIT (X25-91xx-xx)

Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on	Ref.No.	A d d	N e w	Parts No.	Description	Dest Inati on
Q14			2SC4081	TRANSISTOR							
Q15			2SB1443	TRANSISTOR	E1K						
Q16 ,17			2SC4081	TRANSISTOR	E1K						
Q18 ,19			2SA1576A	TRANSISTOR	E1K						
Q20			2SC4081	TRANSISTOR	E1K						
Q21			2SA1576A	TRANSISTOR	E1K						
Q22			2SC4081	TRANSISTOR	E1K						
Q23		*	DTC114YUA	DIGITAL TRANSISTOR	K						
Q23		*	KRC407	DIGITAL TRANSISTOR	K						
Q24 ,25		*	2SB1277(Q,R)	TRANSISTOR	K						
Q25			2SB1277(Q,R)	TRANSISTOR	E1E2						
Q26			2SA1576A	TRANSISTOR							
Q27			DTA124EUA	DIGITAL TRANSISTOR							
Q27			KRA303	DIGITAL TRANSISTOR							
Q28			DTC114YUA	DIGITAL TRANSISTOR							
Q28		*	KRC407	DIGITAL TRANSISTOR	K						
Q29		*	DTA123JK	DIGITAL TRANSISTOR							
Q29		*	KRA105S	DIGITAL TRANSISTOR	K						
Q30		*	DTC144EUA	DIGITAL TRANSISTOR							
Q30		*	KRC404	DIGITAL TRANSISTOR	K						
Q31 ,32			2SC4081	TRANSISTOR							
Q33 ,34			DTA124EUA	DIGITAL TRANSISTOR							
Q33 ,34			KRA303	DIGITAL TRANSISTOR							
Q35			2SC4081	TRANSISTOR	K						
Q36			DTC124EUA	DIGITAL TRANSISTOR							
Q36		*	KRC403	DIGITAL TRANSISTOR	K						
Q37 -41		*	DTC143TUA	DIGITAL TRANSISTOR	E2						
Q37 -43		*	DTC143TUA	DIGITAL TRANSISTOR	E1K						
Q37 -43		*	KRC410	DIGITAL TRANSISTOR	K						
Q45		*	DTC124EUA	DIGITAL TRANSISTOR							
Q45		*	KRC403	DIGITAL TRANSISTOR	K						
Q46		*	2SB1188(Q,R)	TRANSISTOR							
Q47		*	DTC124EUA	DIGITAL TRANSISTOR							
Q47		*	KRC403	DIGITAL TRANSISTOR	K						
Q48		*	2SB1188(Q,R)	TRANSISTOR							
Q49			DTC143TUA	DIGITAL TRANSISTOR							
Q49			KRC410	DIGITAL TRANSISTOR							
Q50			2SB1427	TRANSISTOR							
TH1			PTH9C42BD471Q	POSITIVE RESISTOR							
A1		*	W02-3341-05	ELECTRIC CIRCUIT MODULE							
A2		*	X86-3240-11	TUNER UNIT	K						
A2		*	X86-3342-71	TUNER UNIT	E1E2						

K : KDC-X859

E1 : KDC-M9021

E2 : KDC-8021

E: Europe K: North America M: Other Areas
W: Without Europe

△ indicates safety critical components.

KDC-8021/M9021/X859

SPECIFICATIONS

		KDC-8021	KDC-M9021
FM	Frequency Range(MHz) (Frequency step)	87.5MHz-108.0MHz (50kHz)	87.5MHz-108.0MHz (50kHz)
	Usable Sensitivity (S/N 26dB)	0.7μV/75Ω	0.7μV/75Ω
	Quieting Sensitivity (S/N 46dB)	1.6μv/75Ω	1.6μv/75Ω
	Frequency Response (±3.0dB)	30Hz-15kHz	30Hz-15kHz
	S/N(dB)	65dB(MONO)	65dB(MONO)
	Selectivity(DIN)(dB)	≥80dB(±400kHz)	≥80dB(±400kHz)
MW (AM)	Stereo Separation	35dB(1kHz)	35dB(1kHz)
	Frequency Range(KHz) (Frequency step)	531kHz-1611kHz (9kHz)	531kHz-1611kHz (9kHz)
	Usable Sensitivity (S/N 20dB)	25μv	25μv
LW	Frequency Range(KHz)	153kHz-281kHz	153kHz-281kHz
	Usable Sensitivity (S/N 20dB)	45μv	45μv
CD	Laser Diode	GaAlAs(λ=780mm)	GaAlAs(λ=780mm)
	Digital Filter(D/A)	8 Times OverSampling	8 Times OverSampling
	D/A Converter	1 Bit	1 Bit
	Spindle Speed	500~200(CLV)	1000~400(CLV • 2times)
	Wow & Flutter	Below Mesurable Limit	Below Mesurable Limit
	Frequency Response	10-20kHz(±1dB)	10-20kHz(±1dB)
	Total Harmonic Distortion	0.01%(1kHz)	0.01%(1kHz)
	S/N Ratio (dB)	105dB(1kHz)	105dB(1kHz)
	Dynamic Range	93dB	93dB
	Channel Separation	95dB	95dB
AMP	MP3 decord		MPEG1.0 Audio Layer3
	WMA decord		
	Preout Level(mV)/Load -Unbalanced	1800mV/10kΩ (CD/CD-CH)	4500mV/10kΩ (CD/CD-CH)
	Preout Impedance(Ω)	≤ 600Ω	80Ω
TONE	PWR(MAX)	50wx4	50wx4
	PWR DIN45324,+B=14.4V	30wx4	30wx4
	Bass	100Hz ± 10dB	100Hz ± 10dB
GENE	Middle	1kHz ± 10dB	1kHz ± 10dB
	Treble	10kHz ± 10dB	10kHz ± 10dB
	Operating voltage (11~16v allowable)	14.4v	14.4v
	Current Consumption	10A	10A
	Installation Size (W)	182(mm)	182(mm)
	(H)	53(mm)	53(mm)
	(D)	162(mm)	162(mm)
	Weight	1.5Kg	1.5Kg

KDC-8021/M9021/X859

SPECIFICATIONS

		KDC-X859
FM	Frequency Range (Frequency step)	87.9MHz - 107.9MHz (200kHz)
	Channel Space Selection	50k/200kHz
	Usable Sensitivity S/N:30dB	9.3dBf (0.8 μ V/75 Ω)
	Quieting Sensitivity S/N 50dB	15.2dBf (1.6 μ V/75 Ω)
	Frequency Response (± 3.0 dB)	30Hz-15kHz
	S/N	70dB(MONO)
	Selectivity	≥ 80 dB(± 400 kHz)
	Stereo Separation	40dB(1kHz)
AM	Frequency Range (Frequency step)	530kHz - 1700kHz (10kHz)
	Channel Space Selection	9k/10kHz
	Usable Sensitivity S/N:20dB	28dB μ (25 μ v)
CD	Laser Diode	GaAlAs($\lambda = 780$ mm)
	Digital Filter(D/A)	8 Times OverSampling
	D/A Converter	1 Bit
	Spindle Speed	1000~400(CLV • 2times)
	Wow & Flutter	Below Mesurable Limit
	Frequency Response	10-20kHz(± 1 dB)
	Total Harmonic Distortion	0.01%(1kHz)
	S/N Ratio (dB)	105dB(1kHz)
	Dynamic Range	93dB
	Channel Separation	95dB
	MP3 decord	MPEG1.0 Audio Layer3
	WMA decord	
AMP	Preout Level(mV)/Load -Unbalanced	4500mV/10k Ω (CD/CD-CH)
	Preout Impedance(Ω)	80 Ω
AMP	Maximum Power	50wx4
	Full Bandwidth Power (at less than 1%THD)	22wx4
TONE	Bass	100Hz ± 10 dB
	Middle	1kHz ± 10 dB
	Treble	10kHz ± 10 dB
GENE	Operating voltage (11~16v allowable)	14.4v
	Current Consumption	10A
	Installation Size (W) (H) (D)	182(mm) 7-3/16(in) 53(mm) 2-1/16(in) 162(mm) 6-3/8 (in)
	Weight	3.3 lbs(1.5kg)

KDC-8021/M9021/X859

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD CORPORATION

14-6, Dogenzaka 1-chome, Shibuya-ku, Tokyo, 150-8501 Japan

KENWOOD SERVICE CORPORATION

P.O. Box 22745, 2201 East Dominguez Street,
Long Beach, CA90801-5745, U.S.A.

KENWOOD ELECTRONICS CANADA INC.

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

KENWOOD ELECTRONICS LATIN AMERICA S.A.

P.O. Box 55-2791 Paitilla, Plaza Credicorp Bank Panama,
Piso 9, Oficina 901, Calle 50, Panama, Republic of Panama

KENWOOD ELECTRONICS BRASIL LTDA.

Alameda Ministro Rocha Azevedo No. 456,
Edifício Jau, 10o Andar, Cerqueira César, Cep 0140-001,
São Paulo-SP-Brasil

KENWOOD ELECTRONICS UK LIMITED

Kenwood House, Dwight Road, Watford,
Herts, WD1 8EB, United Kingdom

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker Str. 15, 63150 Heusenstamm, Germany

KENWOOD ELECTRONICS FRANCE S.A.

13, Boulevard Ney, 75018 Paris, France

KENWOOD ELECTRONICS BELGIUM N.V.

Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

KENWOOD ELECTRONICS ITALIA S.p.A.

Via G. Sirtori 7/9, 20129 Milano, Italy

KENWOOD IBÉRICA S.A.

Bolivia, 239-08020 Barcelona, Spain

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

(A.C.N. 001 499 074)
16 Giffnock Avenue, Centrecourt Estate, North Ryde,
N.S.W. 2113, Australia

KENWOOD ELECTRONICS (HONG KONG) LTD.

Unit 3712-3724, Level 37, Tower 1, Metroplaza,
223 Hing Fong Road, Kwai Fong, N.T., Hong Kong

KENWOOD ELECTRONICS GULF FZE

P.O.Box 61318, Jebel Ali, Dubai, U.A.E.

KENWOOD ELECTRONICS (THAILAND) CO., LTD.

2019 New Pechburi Road, Bangkapi, Huaykwang,
Bangkok, 10320 Thailand

KENWOOD ELECTRONICS SINGAPORE PTE LTD.

1 Genting Lane, #07-00, Kenwood Building, Singapore 349544

KENWOOD ELECTRONICS (MALAYSIA) SDN BHD

#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1,
46300 Petaling Jaya, Selangor Darul Ehsan, Malaysia

CD MECHANISM ASSY

**X92-4430-0x
X92-4450-0x**

SERVICE MANUAL

KENWOOD

© 2002-1 PRINTED IN JAPAN
B51-7889-00 (N) 3415

DESCRIPTION MECHANISM

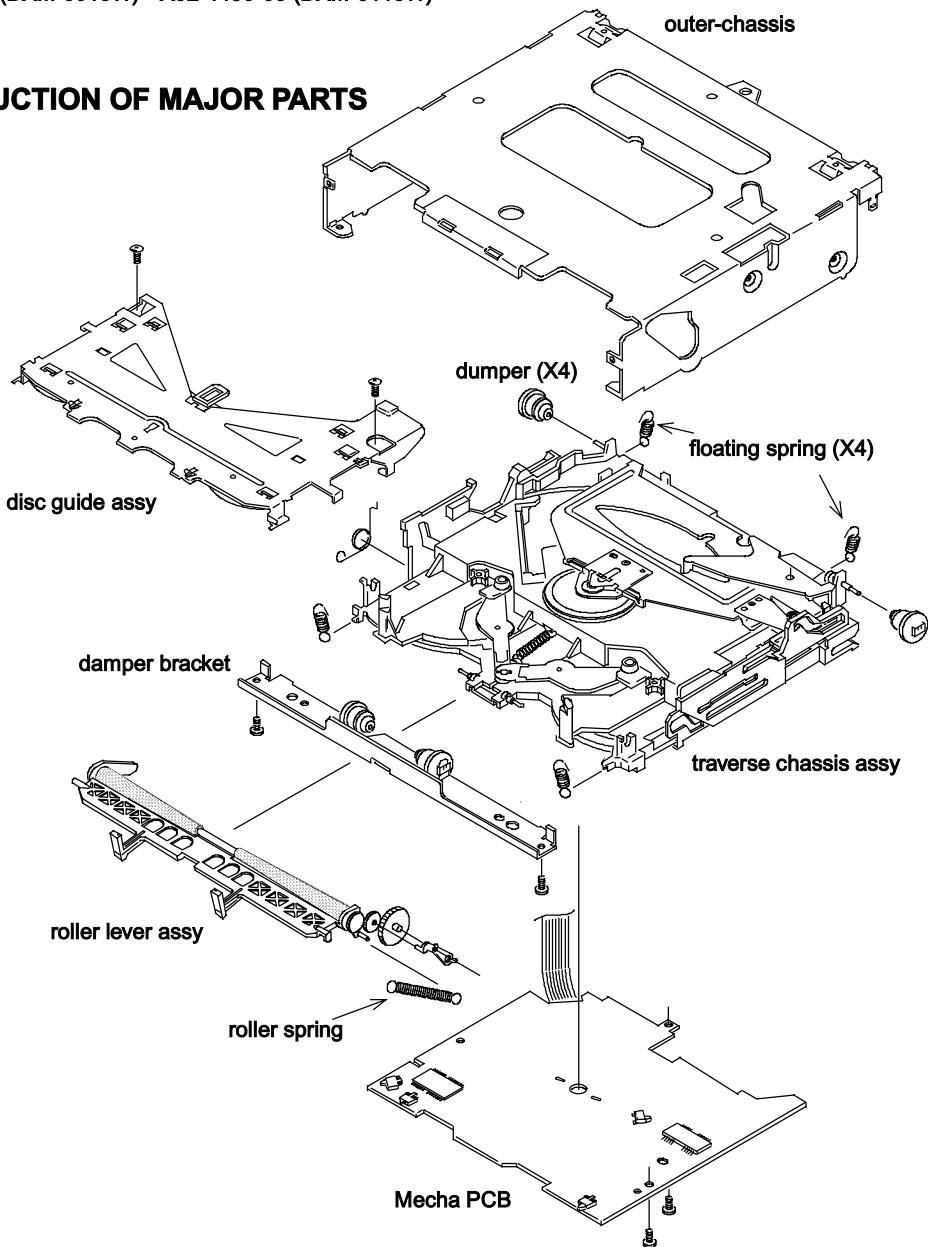
X92-4430-00 (DXM-6010W) X92-4450-00 (DXM-6110W)

X92-4430-01 (DXM-6011W) X92-4450-01 (DXM-6111W)

X92-4430-02 (DXM-6012W) X92-4450-02 (DXM-6112W)

X92-4430-03 (DXM-6013W) X92-4450-03 (DXM-6113W)

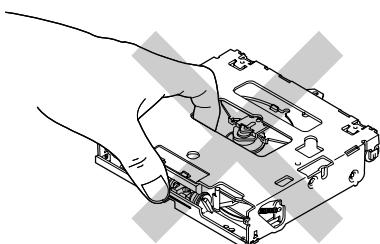
CONSTRUCTION OF MAJOR PARTS



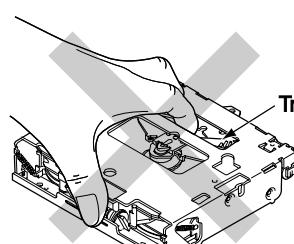
X92-4430-0x

X92-4450-0x

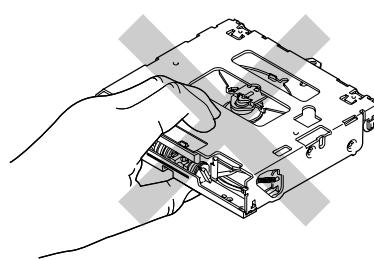
NOTE FOR HANDLING MECHANISM ASSY



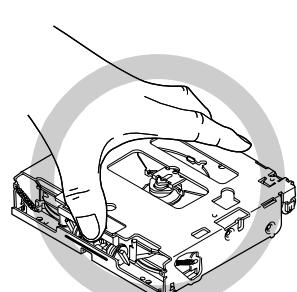
NG Pick is under the finger, it may touch.



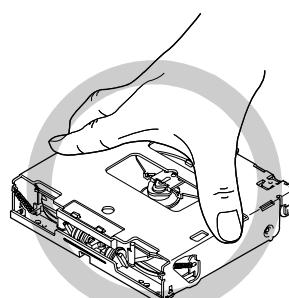
NG Don't touch the lever because the trigger lever comes off.



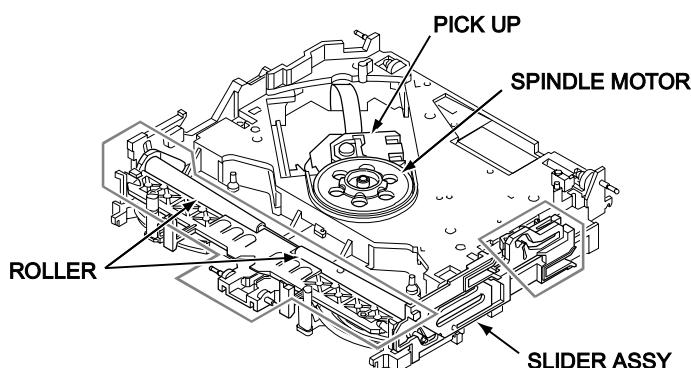
NG Don't have the center of entrance because the disc insertion mouth is transformed.



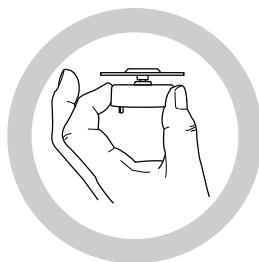
OK



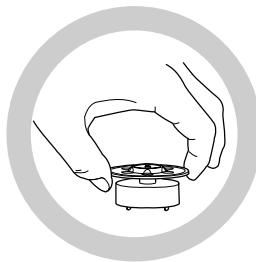
OK



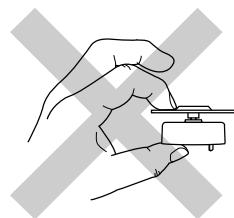
- Don't touch in the frame, since grease is applied to the parts.
- Don't applied grease to the roller.
- Don't touched PICK and SPINDLE MOTOR.



OK



OK

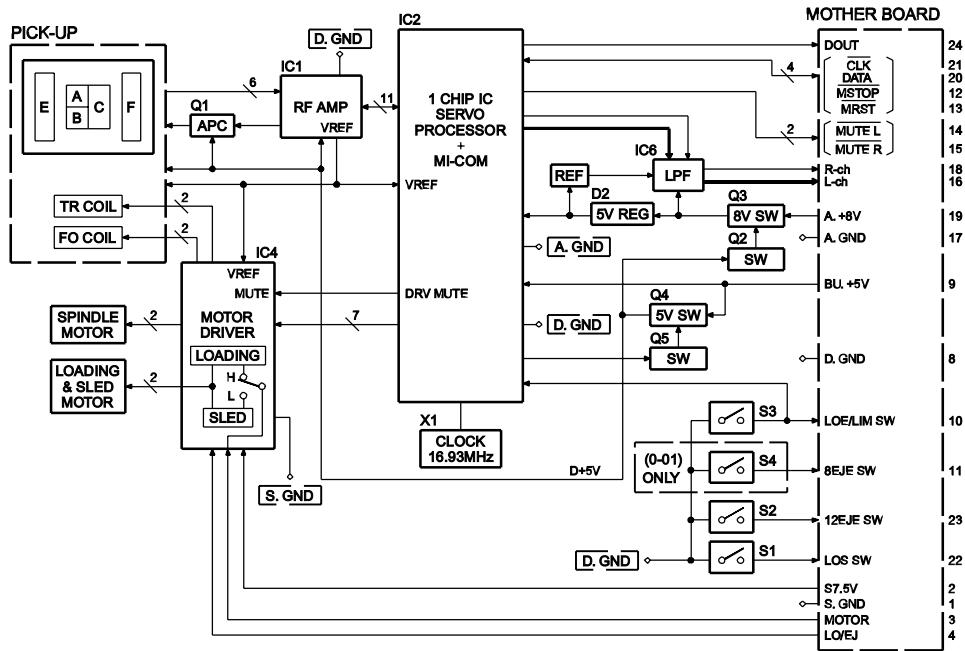


NG

X92-4430-0x

X92-4450-0x

BLOCK DIAGRAM



COMPONENTS DESCRIPTION

●CD PLAYER UNIT (X32-5180-0X, X32-5200-0X)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	AN22000AA	RF amplifier adapted for CD-RW	Generation of RF signal based on the signals from the APC circuit and pickup, and generation of servo error (focusing error and tracking error) signals. Detection of dropout, anti-shock, track crossing and off-track conditions, included gain control function during CD-RW.
IC2	MN662774KJ2 (X32-5180-0X)	CD signal processor built-in MI-COM.	Focusing, tracking, sled and spindle servo processing. Automatic adjustment (focusing, tracking, gain, offset and balance) operations. Digital signal processing (DSP, PLL, sub-codes, CIRC error correction, audio data interpololation) operations, and Microcomputer function.
IC2	MN662773KH2 (X32-5200-0X)	CD signal processor built-in MI-COM.	Focusing, tracking, sled and spindle servo processing. Automatic adjustment (focusing, tracking, gain, offset and balance) operations. Digital signal processing (DSP, PLL, sub-codes, CIRC error correction, audio data interpololation) operations, included CD-text decoder and Microcomputer function.
IC4	BA5824FP	4CH BTL driver	Focusing coil, tracking coil, spindle motor and sled motor driver, disc loading and eject operation.
IC6	NJM4580M1	Low pass filter	2nd low pass filter for audio signals
Q1	MCH6101	APC	LD power control
Q2	DTC124EUA	A.8V SW	When D.5V SW is turned on, Q2 and Q3 are turned on, and A.+8V is supplied to low pass filter circuit and D/A converter.
Q3	DTA143XUA		
Q4	2SA1362(Y)	D.5V SW	When PON goes Hi, Q4 and Q5 are turned on, and BU+5V is supplied to microprocessor peripheral circuit, IC1 and the pickup.
Q5	DTC124EUA		

X92-4430-0X

X92-4450-0X

MICROCOMPUTER'S TERMINAL DESCRIPTION

●IC2(CD PLAYER UNIT : X32-5180-0X, X32-5200-0X)

Pin No.	Pin Name	I/O	Description	Processing Operation
1	BDO	I	Dropout signal input	Hi : Dropout detected
2	OFT	I	Off-track signal input	Hi : Off-track detected
3	/RFDET	I	RF detection input	Hi : RF signal detected
4	VDET	I	Vibration detection input	Hi : Vibration detected
5	LDON	O	Laser diode ON signal output	Hi : Laser diode ON
6,7	NC	-		Not used (N.C.)
8	AVSS3	-	Ground connection terminal for analogue circuits	Connected to GND lines.
9	AVDD3	-	Positive power supply connection terminal for analogue circuits	Connected to BU 5V lines.
10	FBAL	O	Focusing balance adjustment output	
11	TBAL	O	Tracking balance adjustment output	
12	FE	I	Focusing error signal input	
13,14	NC	-		Not used (N.C.)
15	TE	I	Tracking error signal input	
16-18	NC	-		Not used (N.C.)
19	RFENV	I	RF envelope signal input	
20	VREF	I	VREF input terminal	
21	ARF	I	RF signal input (for DSL)	
22	DRF	I	DSL bias terminal	
23	DSLF	I/O	DSL loop filter terminal	
24	IREF	I	Reference current input terminal	
25	PLLF	I/O	PLL loop filter terminal	
26	PLLF2	I/O	PLL loop filter characteristic switching terminal	
27	VCOF	I/O	VCO loop filter terminal	
28	VCOF2	I/O	VCO loop filter terminal	Digital servo 33.8688MHz generation
29	TRV	O	Traverse forced feed output	
30	TVD	O	Traverse drive output	
31	PC	O	Spindle motor ON/OFF output (Lo : ON)	Not used (N.C.)
32	ECM	O	Spindle motor drive output (forced mode output)	
33	ECS	O	Spindle motor drive output	
34	KICK	O	Kick pulse output	
35	TRD	O	Tracking drive output	
36	FOD	O	Focusing drive output	
37	TOFS	O	Tracking off-set adjustment output	
38	AVDD2	-	Positive power supply connection terminal for analogue circuits (for DSL, PLL, AD, DA)	Connected to BU 5V lines.
39	AVSS2	-	Ground connection terminal for analogue circuits (for DSL, PLL, AD, DA)	Connected to GND lines.
40	DVSS2	-	Ground connection terminal for digital circuits	Connected to GND lines.
41	EFM or CK384	O	EFM signal output	Not used (N.C.)
42	PCK or DSLB	O	PLL sampling clock output	
43	/CLDCK	O	Sub-code frame clock signal output	Not used (N.C.)
44	FCLK	O	Crystal frame clock signal output	Not used (N.C.)
45	IPFLAG	O	Interpolation flag signal output (Hi : Interpolated)	Not used (N.C.)
46	FLAG	O	Flag signal output	Not used (N.C.)
47	TRCRS	I	Track crossing signal input	
48	STOUT	O	Serial data output for monitor signal	Not used (N.C.)
49	STLD	O	Load output for monitor signal	Not used (N.C.)
50	SMCK	O	Bit clock signal output for monitor signal	Not used (N.C.)
51	CSEL	I	Crystal oscillation frequency selection terminal	Hi : 33.8688MHz, Lo : 16.9344MHz

X92-4430-0x
X92-4450-0x

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Description	Processing Operation
52	TEST1	I	test terminal 1	Not used (Connected to GND lines)
53	TEST2	I	test terminal 2	Not used (Connected to GND lines)
54	IOSEL	I	Audio DAC data input mode selection terminal	Hi: External data, Lo: Internal data
55	NRST	I	Reset input (Lo: Reset)	Not used(Connected to BU 5V lines)
56	BCLK	O	Bit clock output for SRDATA	Not used (N.C.)
57	LRCK	O	L/R identification signal output	Not used (N.C.)
58	SRDATA	O	Serial data output	Not used (N.C.)
59	SUBC	O	Sub-code serial output	Not used (N.C.)
60	SBCK	I	Clock input for Sub-code serial output	Not used (Connected to GND lines)
61	DQSY	O	CD-TEXT read permission signal output	Not used (N.C.)
62	DEMPH	O	De-emphasis detection signal output (Hi : ON)	Not used (N.C.)
63	TX	O	Digital audio interface signal output	
64	PSEL	I	SRDATA input/Test terminal	Not used (Connected to GND lines)
65	MSEL	I	LRCK input/SMCK output frequency switching	Not used (Connected to GND lines)
66	SSEL	I	BCLK input	Not used (Connected to BU 5V lines)
67	DVDD1	-	Positive power supply connection terminal for digital circuits	Connected to BU 5V lines.
68	X1	I	Crystal oscillation circuit connection terminal	
69	X2	O	Crystal oscillation circuit connection terminal	
70	DVSS	-	Ground connection terminal for digital circuits	Connected to GND lines.
71	XSUB1	I	Microprocessor clock input terminal	Not used (Connected to GND lines)
72	XSUB2	O	Microprocessor clock output terminal	Not used (N.C.)
73	DVDD2	-	Positive power supply connection terminal for digital circuits	Connected to BU 5V lines.
74,75	NC	O		Not used(N.C.)
76	73/74SEL	I	73/74 selection terminal	Hi : CD-TEXT OFF (DXM-601xW) Lo : CD-TEXT ON (DXM-611xW)
77	DRV MUTE	O	Driver muting control terminal	Lo : Spindle motor, focusing actuator and tracking actuator outputs OFF
78,79	NC	O		Not used (N.C.)
80	TEST	I	Test mode switching terminal	Not used (Connected to GND lines)
81	ASEL	I	Audio output polarity detection terminal	Hi : Non inverted, Lo : Inverted
82	PON	O	Audio/digital power supply control terminal	Hi : Power ON
83	SEARCH	O	Servo IC gain switching control terminal	Hi : Search, Lo : Normal operation
84	EQCNT	O	RF amplifier doable-speed switching control terminal	Not used (N.C.)
85	SW3	I	Limit switch detection terminal	Hi→Lo : Pickup most inner position
86	/AMUTE L	O	L Ch. analogue muting control terminal	Lo : Muting requested
87	/AMUTE R	O	R Ch. analogue muting control terminal	Lo : Muting requested
88	CD-RW	O	CD-RW control terminal	Hi : CD-RW, Lo : Normal operation
89	/RST	I	System reset input terminal	Lo : System reset
90	MECHASEL	I	6000/6010 selection terminal	Lo : 6000 series, Hi : 6010 series
91	/MSTOP	I	Standby detection terminal	Hi : Operation mode, Lo : Stop mode
92	LDCNT	O	LD control terminal	Hi : LD ON, Lo : LD OFF
93	DATA	I/O	I2C bus data line (communication line with System microprocessor)	
94	/CLK	I/O	I2C bus clock line (communication line with System microprocessor)	
95	HOT	I	Temperature protection detection terminal	Not used (Connected to GND lines)
96	AVREF	-	A/D converter reference voltage connection terminal	Connected to BU 5V lines.
97	OUT R	O	R Ch. Audio output	
98	AVDD1	-	A/D converter positive power supply connection terminal	Connected to analogue 5V lines.
99	OUT L	O	L Ch. Audio output	
100	AVSS1	-	A/D converter ground connection terminal	Connected to GND lines.

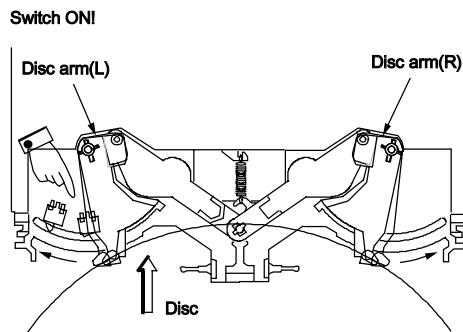
X92-4430-0x
X92-4450-0x

OPERATION DESCRIPTION

[1] Disc Loading

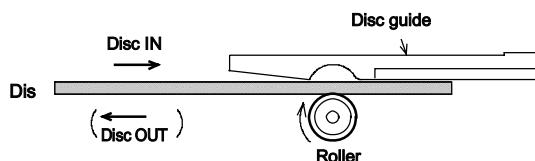
(1) Turning the loading switch ON

- 1) When a disc is inserted, the disc arms open to the left and right and the claw below disc arm (L) sets the loading switch ON.
- 2) The above starts the motor rotation.

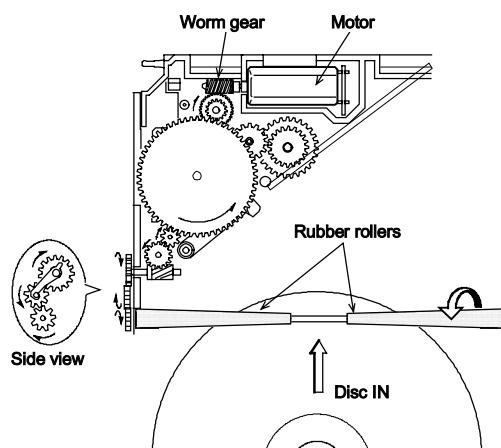


(2) Loading the disc

- 1) When the motor starts rotation, the worm gear also starts to turn as shown in the figure.
- 2) The rotation force is transmitted to the gear train.
- 3) When the force is transmitted to the final gear, the rollers rotate to pull in the disc.



The disc is pulled in or out when the rollers are pushed against the disc guide.

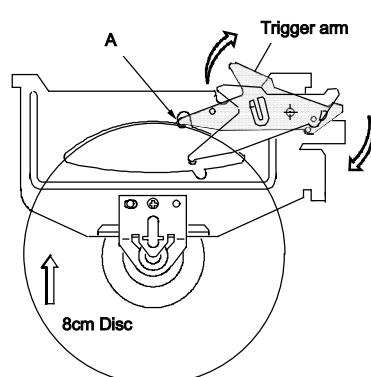
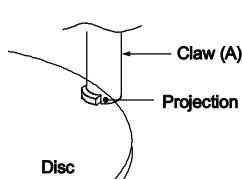
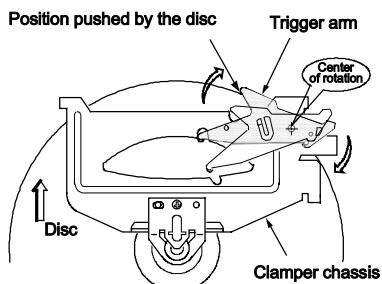


[2] Operation of Slider (R)

(1) Activating the trigger arm

- 1) When the disc is pulled in by the rollers, the disc edge pushes the trigger arm and rotates it.
- 2) When the disc is an 8cm disc, it is pulled upwards by the tapering on the disc guide. The trigger arm is rotated when the disc pushes the claw (section A) located before the trigger arm.

When the 8cm disc reaches the loading end position, the roller areas supporting the disc decreases. To prevent the disc from dropping in this case, the claw is provided with a projection for supporting the disc.

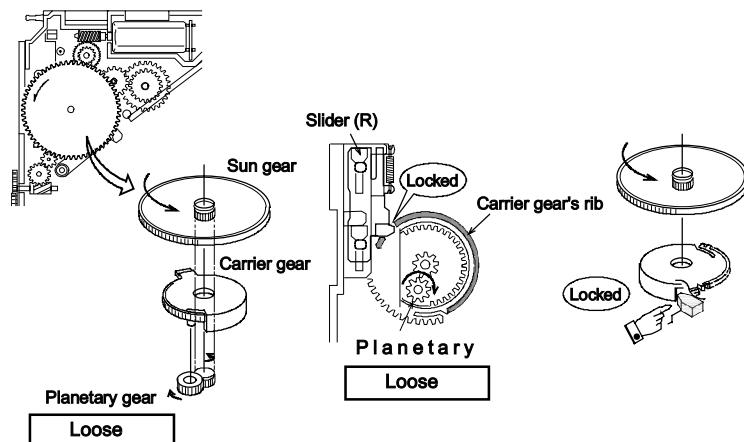


X92-4430-0x

X92-4450-0x

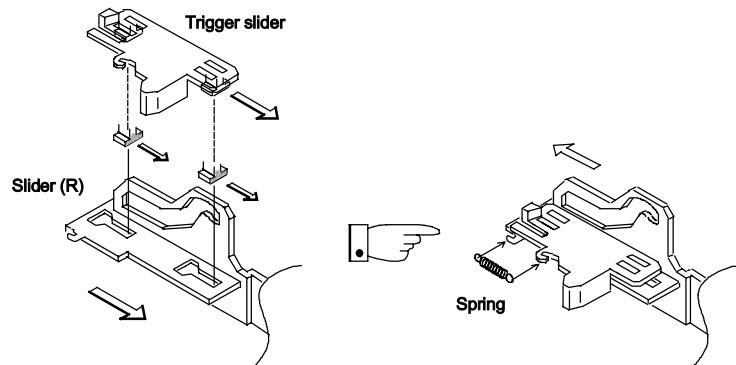
(2) Basic construction (Initial position of the planetary gear mechanism)

- 1) Even after the disc has been inserted, the motor rotated and the gear train also rotated, slider (R) does not start operation yet. This is because the planetary gear mechanism is used and the carrier gear is locked by the slider mechanism. In this period, the planetary gear is in the loose condition.
- 2) When the sun gear is rotating and the carrier gear is locked, the planetary gear is running idle.



(3) Basic construction (Construction of the trigger slider and slider (R))

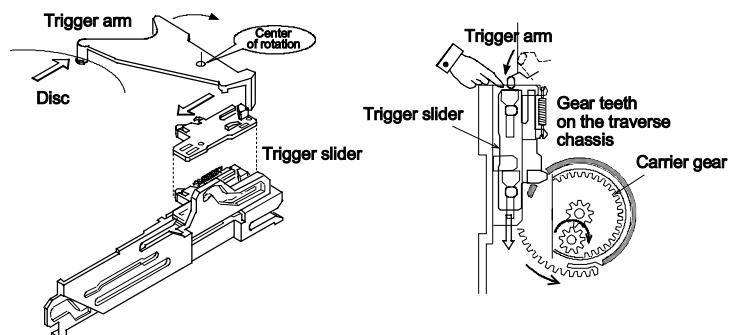
The trigger slider is assembled with slider (R) and pushed in the direction of the arrow by the force of a spring.



(4) Operation of slider (R)

1) Activating the trigger slider

When the trigger arm is rotated by the pressure of the disc, the trigger arm pushes the trigger slider.

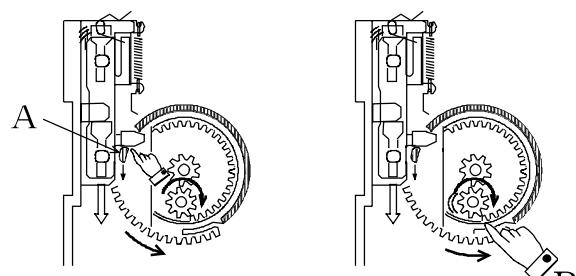


2) Rotating (engaging) the planetary gear

When the trigger slider is moved, it pushes down the wall (section A) of the carrier gear. (Initial rotation of the carrier gear)

This causes the planetary gear, which is attached on a pin of the carrier gear, to move according to the rotation of the carrier gear. When the planetary gear is meshed with a gear tooth (section B) of the traverse chassis, the planetary gear starts rotation.

The rotation of the planetary gears causes the carrier gear to rotate.



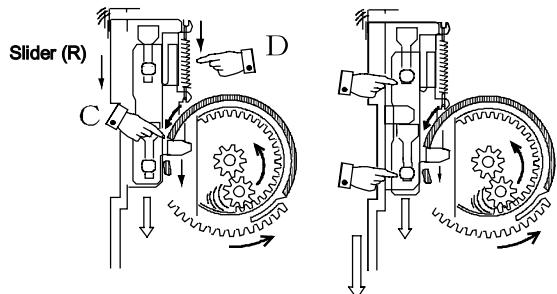
X92-4430-0x

X92-4450-0x

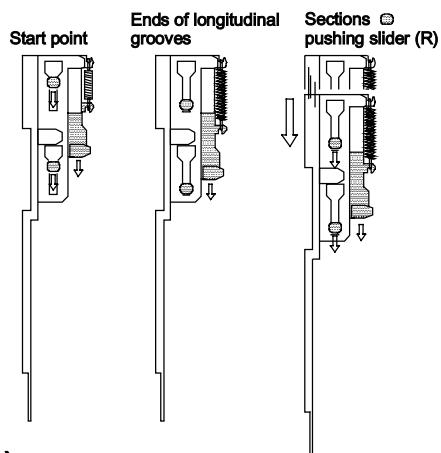
3) Activating slider (R)

When the carrier gear rotates, its wall (section C) pushes and moves the trigger slider.

When the trigger slider is moved, slider (R) is pulled by the force of spring (section D).



When the trigger slider moves along the longitudinal grooves on slider (R) till the ends of grooves, the trigger slider itself begins to push and move slider (R).



[3] Flow Until Disc Chucking (Playback Standby Condition)

(1) Functions activated by slider (R)

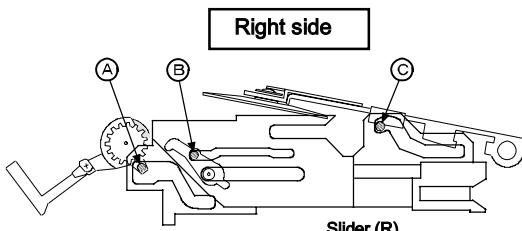
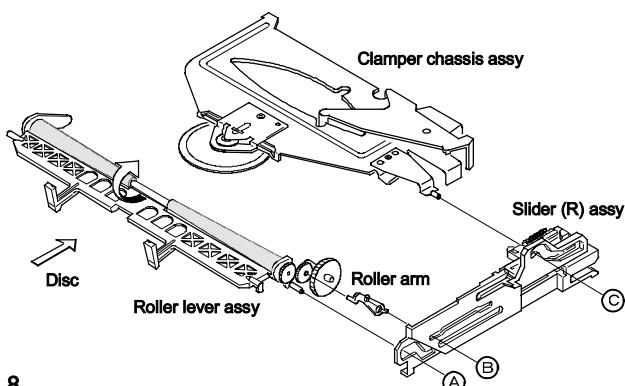
1) Operation modes

To play back a CD, it is required to perform a flow of operations as shown below.

- Pulling the disc in and stopping the roller rotations after it.
 - Moving the clamper downwards so that it can clamp the disc during playback. (Disc chucking)
 - Moving the rollers that are in contact with the disc. (Lowering the roller lever)
 - Float (suspend) the mechanism in order to protect it from vehicle vibrations during disc playback.
 - Moving the pickup (optical ass'y) so that it can reads the disc signals.
- These series of operations are activated by the movement of slider (R).

2) Coupling conditions

The parts used for performing the above functions are coupled with slider (R) as shown below.

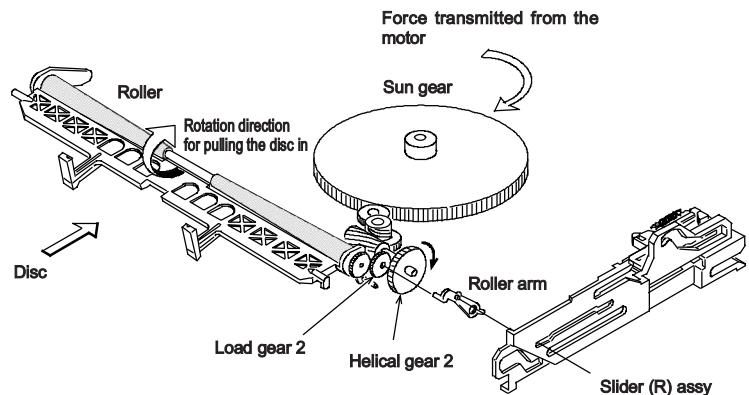


X92-4430-0x

X92-4450-0x

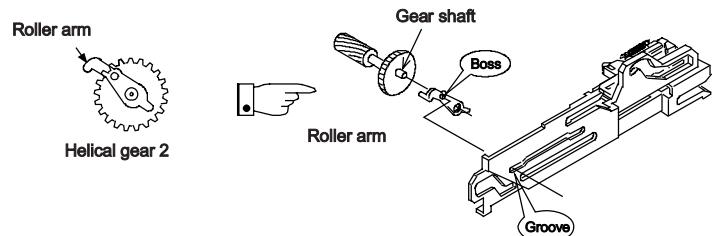
3) Rotation of rollers during disc loading

As shown in the following figure, the motor rotation force is transmitted through sun gear → helical gear 2 → load gear 2 to the gear that is coupled directly with the roller shaft to rotate the rollers and pull in the disc.

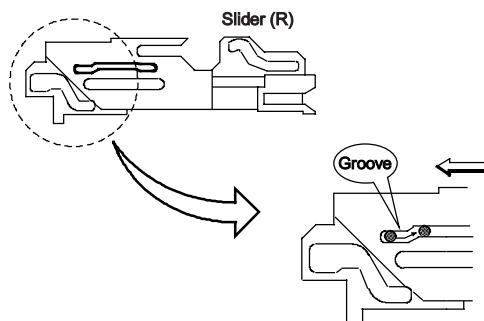


(2) How to stop the roller rotation

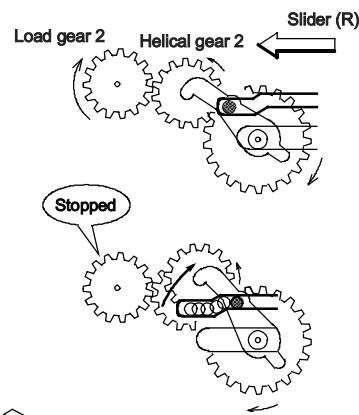
The boss of the roller arm is engaged with a groove on slider (R).



When slider (R) moves, the boss of the roller arm moves along the groove of slider (R), thereby separating the helical gear 2 coupled with it from load gear 2.



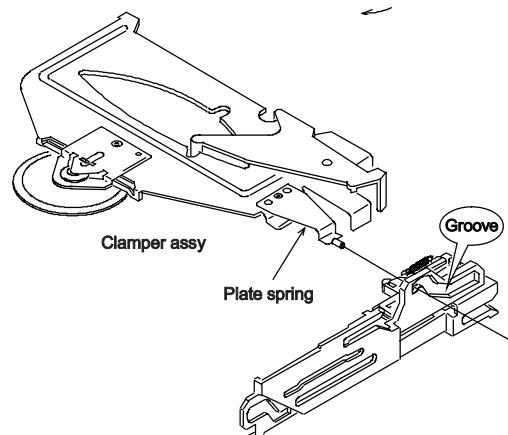
This stops transmission of the force to the rollers so the rollers stop.



(3) Operation of the clamper (Disc chucking)

1) Engaged condition

The plate spring attached to the clamper chassis is originally engaged with a groove on slider (R).



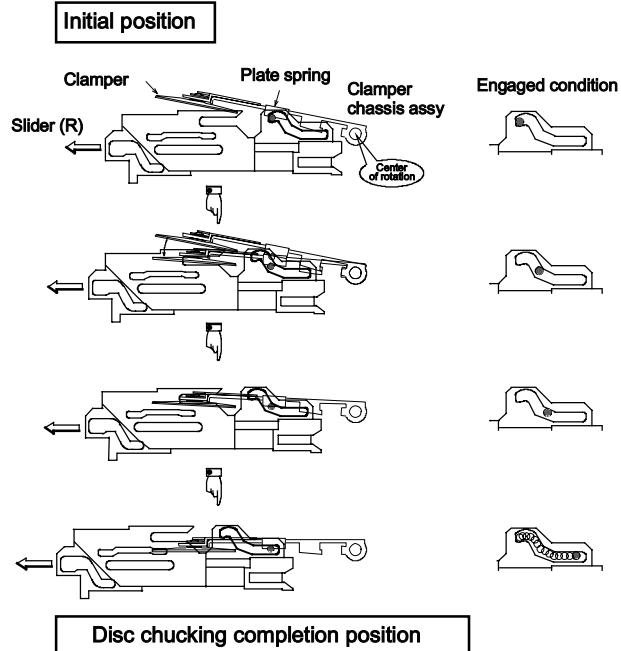
X92-4430-0x

X92-4450-0x

2) Lowering the clamper (for disc chucking)

As slider (R) moves, the plate spring section engaged with it moves along its groove and lowers the clamper chassis assembly.

The following figure shows the flow of operation.

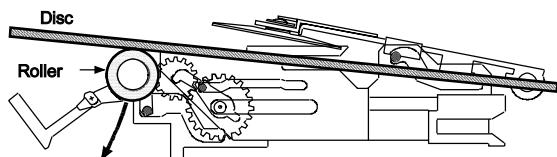


(4) How to lower the rollers

1) Disc chucking completion position

When the disc in this position, the rollers are located below the disc and in contact with it.

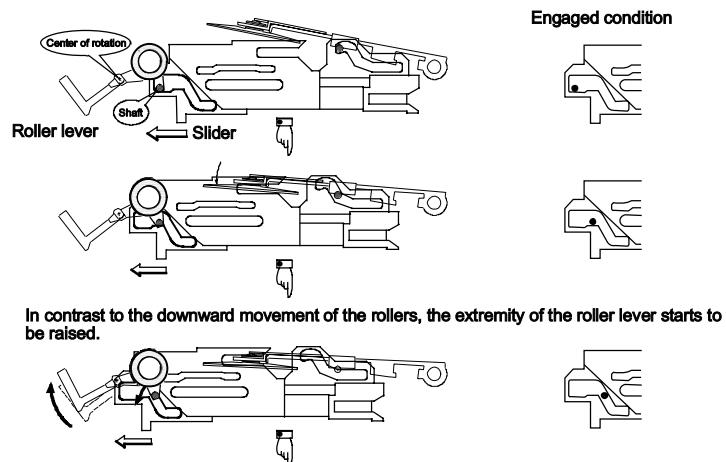
To rotate the disc for playback, it is required to separate the rollers from the disc.



2) Lowering the rollers (Disc playback position)

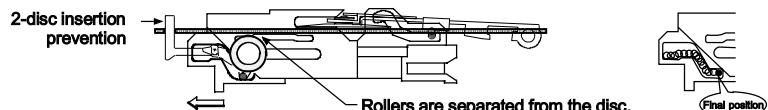
As slider (R) moves, the roller lever shaft engaged with a groove on slider (R) moves along the groove and lowers the rollers.

The following figure shows the flow of operation.



At the lowest position of the rollers

The roller lever extremity comes in the position shown in the figure. Here, it plays a role of stopper for preventing insertion of more than one disc.



X92-4430-0x

X92-4450-0x

(5) Floating position and lock position of the mechanism

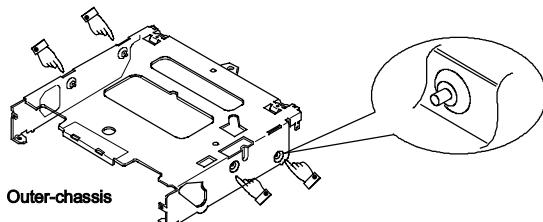
The disc is loaded and ejected by rotation of the rollers that come in close contact with the disc.

After the disc has been pulled in by the rollers, its position should be adjusted so that it can be placed precisely on the turntable of the traverse chassis. To make this possible, the traverse chassis and outer chassis should be in the locked condition.

Since the outer chassis is originally locked on the main unit, if the traverse chassis is also locked during playback, the disc would be subjected directly to vibrations of vehicle during driving and the disc signal would be hindered, making the audio intermittent or impossible to be played.

To prevent such a problem, the traverse chassis is suspended from the outer case using springs or rubber dampers during driving. This positioning protects the disc playback operations and is referred to as the floating position.

Shafts for locking the traverse chassis (Outer case-integrated design)
(4 shafts)



(6) Function of slider (L)

Slider (L) ensures the mechanism lock position because the shafts of the outer chassis are inserted into its grooves in the same way as they are inserted into the grooves on slider (R).

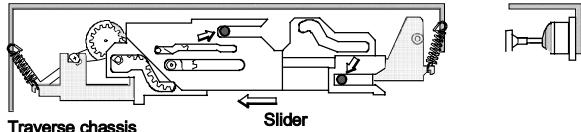
As slider (R) moves, the force moving the roller lever is transmitted to slider (L), which also starts the sliding movement.

When the spring is compressed gradually to a certain point, the force changes to a reverse force, which supports the jump-up operation of the roller lever.

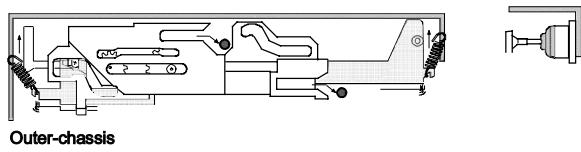
Mechanism lock position

The shafts of the outer chassis are inserted into the grooves on the sliders.

Outer-chassis

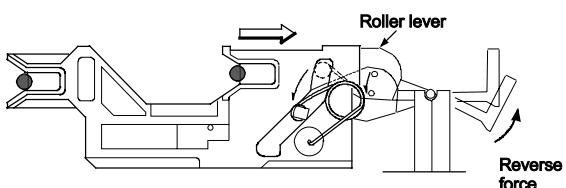
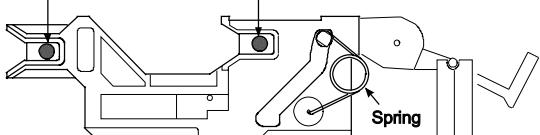


Mechanism floating position



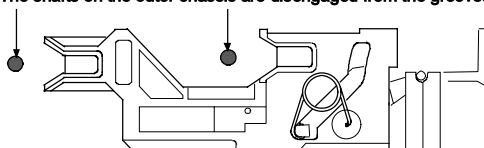
Mechanism lock position

The shafts of the outer chassis are inserted into the grooves on the sliders.



Mechanism floating position

The shafts on the outer chassis are disengaged from the grooves on the slider.



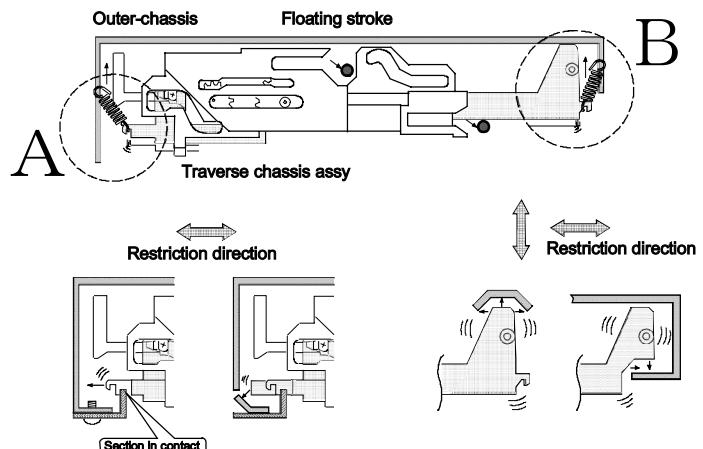
X92-4430-0x

X92-4450-0x

(7) Floating stroke

When the traverse chassis assembly is in the mechanism floating position, stoppers should be provided between the outer case and traverse chassis assembly in order to prevent the mechanism from being damaged by vibrations and shock of the vehicle.

The distance between the traverse chassis assembly and stoppers, that is, the range in which the traverse chassis assembly can move freely, is referred to as the floating stroke.

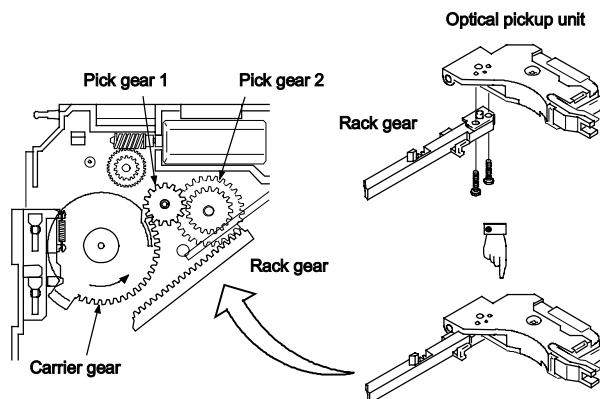


(8) Operation of the pickup

1) Construction

The optical pickup unit is attached on the rack gear.

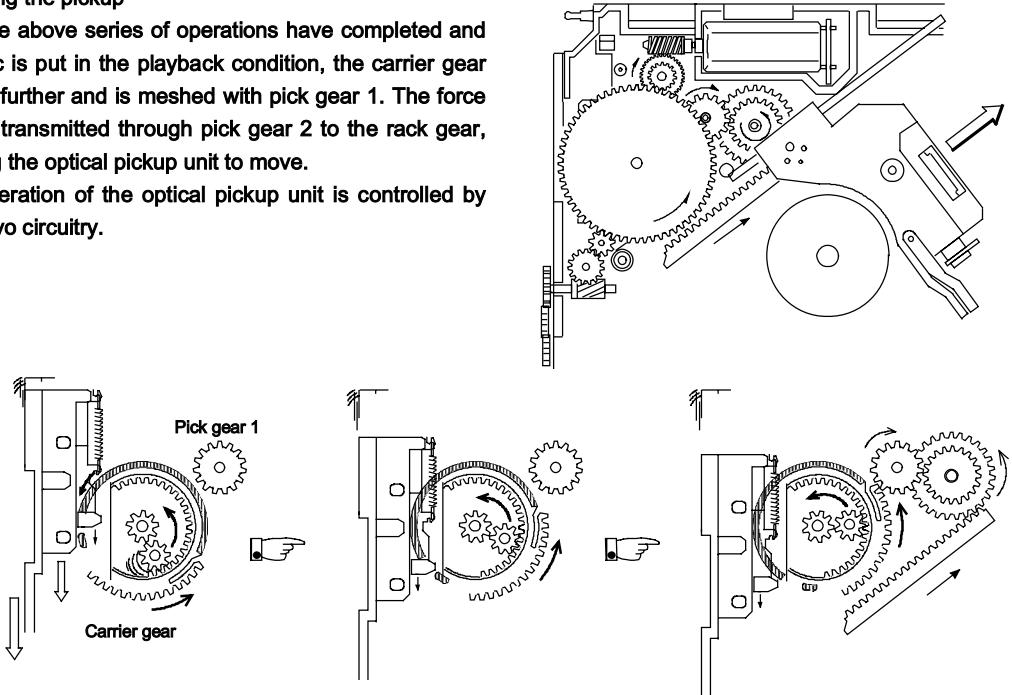
The following figure shows the positioning of the gears.



2) Activating the pickup

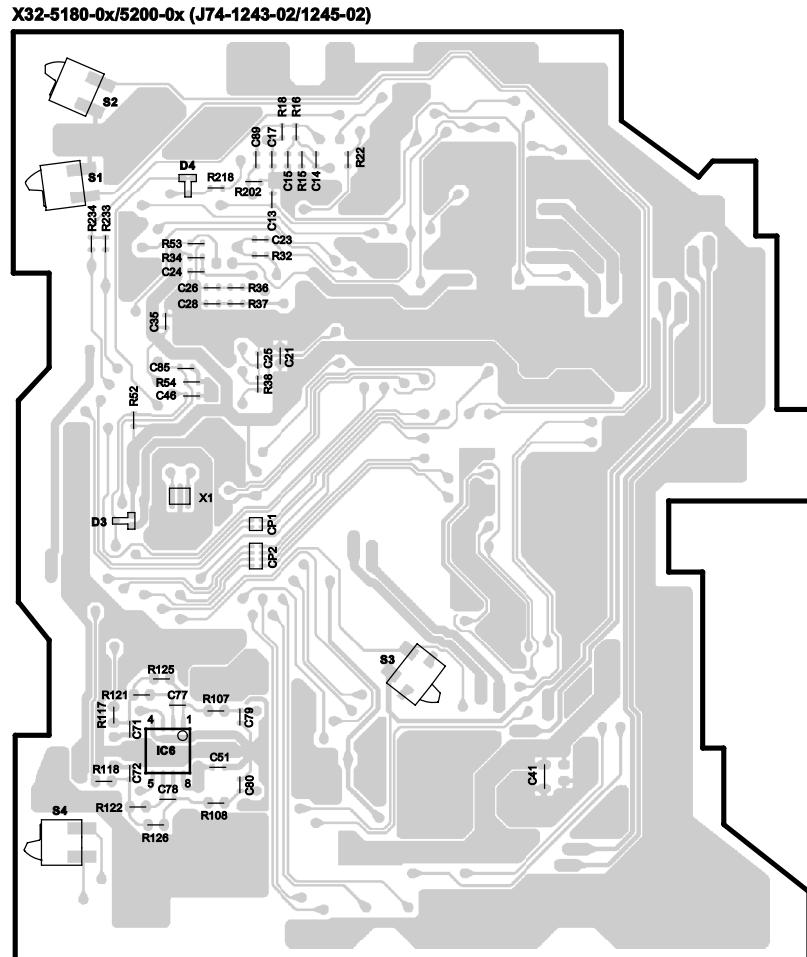
After the above series of operations have completed and the disc is put in the playback condition, the carrier gear rotates further and is meshed with pick gear 1. The force is then transmitted through pick gear 2 to the rack gear, causing the optical pickup unit to move.

The operation of the optical pickup unit is controlled by the servo circuitry.

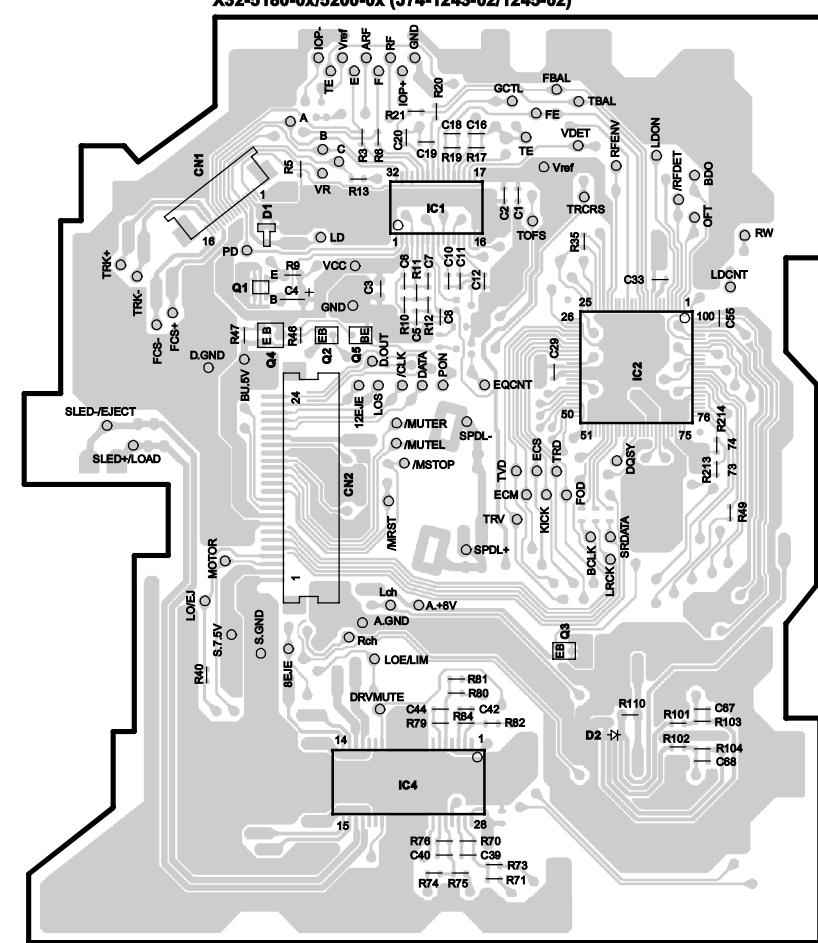


PC BOARD (COMPONENT SIDE VIEW)

PC BOARD (FOIL SIDE VIEW)

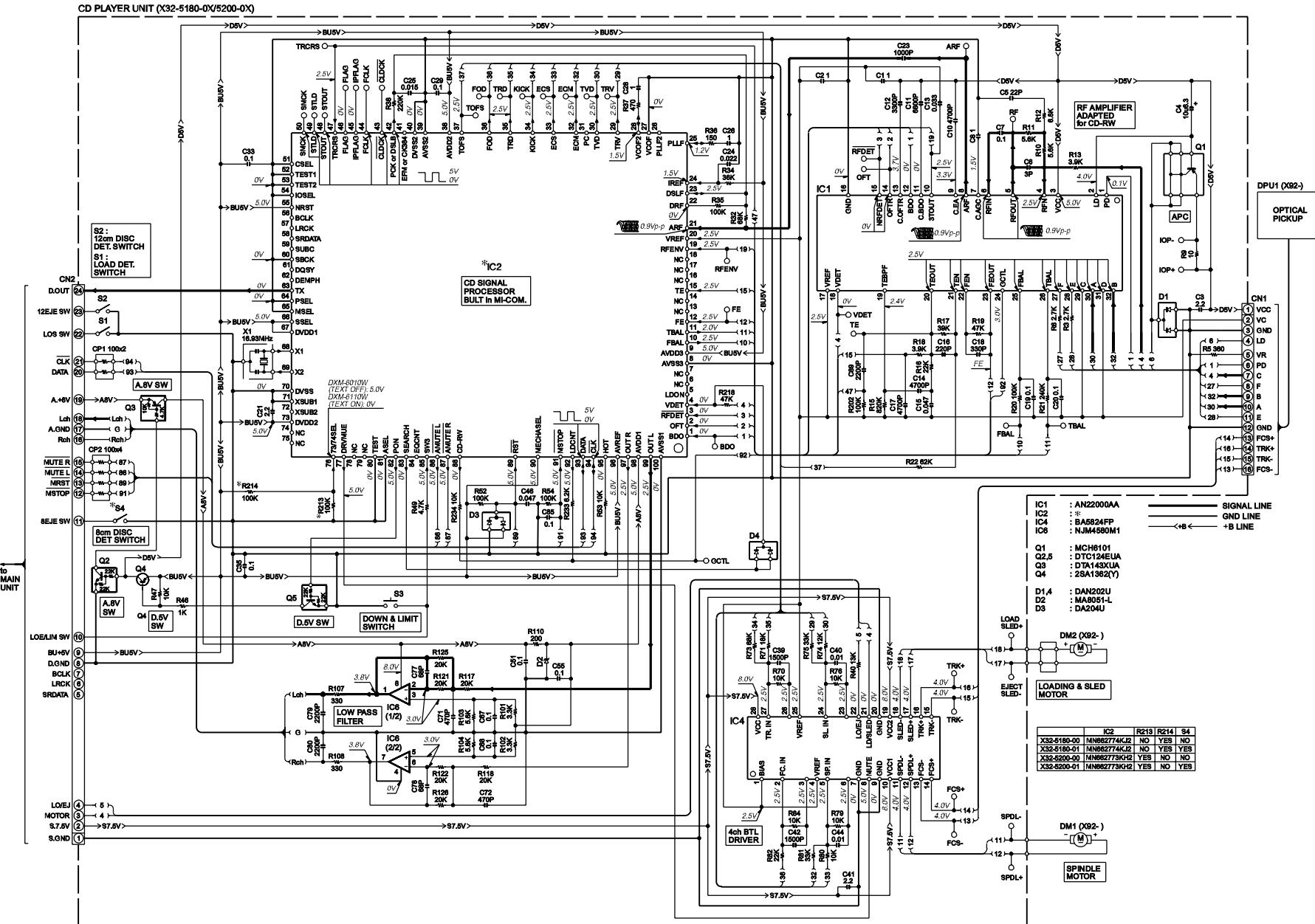


X32-5180-0x
X32-5200-0x



X32-5180-0x/X32-5200-0x					
IC	1	2	4		
Q				1	2
address	3H	3I	5H	3G	3G

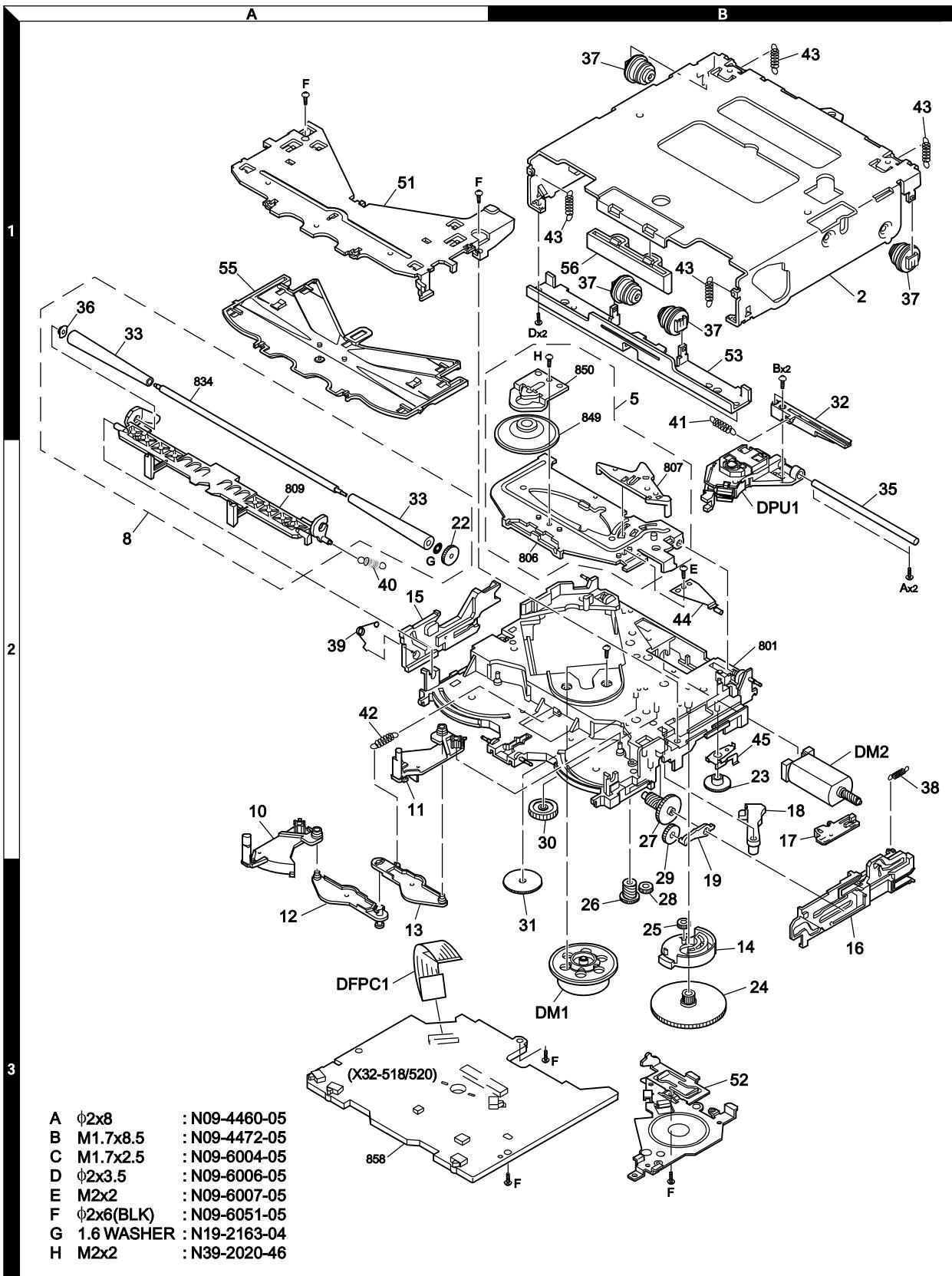
Refer to the schematic diagram for the values of resistors and capacitors.



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).
Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.
• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments and/or units.

X92-4430-0x
X92-4450-0x

X92-4430-0x
X92-4450-0x



Parts with the exploded numbers larger than 700 are not supplied.

X92-4430-0x

X92-4450-0x

PARTS LIST

*New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	A d d	N e w	Parts No.	Description	P o s t i o n
CD PLAYER UNIT (X32-5180-0X, X32-5200-0X)					
C1 ,2			CK73GB0J105K	CHIP C 1.0UF K	
C3			CK73FB1A225K	CHIP C 2.2UF K	
C4			C92-0566-05	CHIP-TAN 10UF 6.3WV	
C5			CC73GCH1H220J	CHIP C 22PF J	
C6			CC73GCH1H030C	CHIP C 3.0PF C	
C7			CK73GB1C104K	CHIP C 0.10UF K	
C8			CK73GB0J105K	CHIP C 1.0UF K	
C10			CK73GB1H472K	CHIP C 4700PF K	
C11			CK73GB1H682K	CHIP C 6800PF K	
C12			CK73GB1H332K	CHIP C 3300PF K	
C13			CK73GB1C333K	CHIP C 0.033UF K	
C14			CK73GB1H472K	4700PF K	
C15			CK73GB1E473K	CHIP C 0.047UF K	
C16			CC73GCH1H221J	CHIP C 220PF J	
C17			CK73GB1H472K	4700PF K	
C18			CC73GCH1H331J	CHIP C 330PF J	
C19 ,20			CK73GB1C104K	CHIP C 0.10UF K	
C21			CK73FB1A225K	CHIP C 2.2UF K	
C23			CK73GB1H102K	CHIP C 1000PF K	
C24			CK73GB1E223K	CHIP C 0.022UF K	
C25			CK73GB1H153K	CHIP C 0.015UF K	
C26			CK73GB0J105K	CHIP C 1.0UF K	
C28			CK73GB0J105K	CHIP C 1.0UF K	
C29			CK73GB1C104K	CHIP C 0.10UF K	
C33			CK73GB1C104K	CHIP C 0.10UF K	
C35			CK73GB1C104K	CHIP C 0.10UF K	
C39			CK73GB1H152K	CHIP C 1500PF K	
C40			CK73GB1H103K	CHIP C 0.010UF K	
C41			CK73EB1C225K	CHIP C 2.2UF K	
C42			CK73GB1H152K	1500PF K	
C44			CK73GB1H103K	CHIP C 0.010UF K	
C46			CK73GB1E473K	CHIP C 0.047UF K	
C51			CK73GB1C104K	CHIP C 0.10UF K	
C55			CK73GB1C104K	CHIP C 0.10UF K	
C67 ,68			CK73GB1C104K	0.10UF K	
C71 ,72			CK73GB1H471K	470PF K	
C77 ,78			CC73GCH1H680J	68PF J	
C79 ,80			CK73GB1H222K	2200PF K	
C85			CK73GB1C104K	0.10UF K	
C89			CK73GB1H222K	2200PF K	
CN1	*		E40-9536-05	FLAT CABLE CONNECTOR	
CN1	*		E41-0193-05	FLAT CABLE CONNECTOR	
CN2	*		E40-9527-05	FLAT CABLE CONNECTOR	
CN2	*		E41-0213-05	FLAT CABLE CONNECTOR	
X1	*		L78-0851-05	RESONATOR (16.93MHZ)	
CP1			R90-1019-05	MULTI-COMP 100 X2	
CP2			R90-1014-05	MULTI-COMP 100 X4	
R3			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R5			RK73GB2A361J	CHIP R 360 J 1/10W	
R6			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R9			RK73FB2B100J	CHIP R 10 J 1/8W	
R10 ,11			RK73GB2A562J	CHIP R 5.6K J 1/10W	

Ref. No.	A d d	N e w	Parts No.	Description	P o s t i o n
R12			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R13			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R15			RK73GB2A224J	CHIP R 820K J 1/10W	
R16			RK73GB2A223J	CHIP R 22K J 1/10W	
R17			RK73GB2A393J	CHIP R 39K J 1/10W	
R18			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R19			RK73GB2A73J	CHIP R 47K J 1/10W	
R20			RK73GB2A104J	CHIP R 100K J 1/10W	
R21			RK73GB2A244J	CHIP R 240K J 1/10W	
R22	*		RK73GB2A623J	CHIP R 62K J 1/10W	
R32			RK73GB2A683J	CHIP R 68K J 1/10W	
R34			RK73GB2A363J	CHIP R 36K J 1/10W	
R35			RK73GB2A104J	CHIP R 100K J 1/10W	
R36			RK73GB2A151J	CHIP R 150 J 1/10W	
R37			RK73GB2A471J	CHIP R 470 J 1/10W	
R38			RK73GB2A224J	CHIP R 220K J 1/10W	
R40			RK73GB2A133J	CHIP R 13K J 1/10W	
R46			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R47			RK73GB2A103J	CHIP R 10K J 1/10W	
R49			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R52			RK73GB2A104J	CHIP R 100K J 1/10W	
R53			RK73GB2A103J	CHIP R 10K J 1/10W	
R54			RK73GB2A104J	CHIP R 100K J 1/10W	
R70			RK73GB2A103J	CHIP R 10K J 1/10W	
R71			RK73GB2A183J	CHIP R 18K J 1/10W	
R73			RK73GB2A683J	CHIP R 68K J 1/10W	
R74			RK73GB2A123J	CHIP R 12K J 1/10W	
R75			RK73GB2A333J	CHIP R 33K J 1/10W	
R76			RK73GB2A103J	CHIP R 10K J 1/10W	
R79 ,80			RK73GB2A103J	CHIP R 10K J 1/10W	
R81			RK73GB2A333J	CHIP R 33K J 1/10W	
R82			RK73GB2A223J	CHIP R 22K J 1/10W	
R84			RK73GB2A103J	CHIP R 10K J 1/10W	
R101,102			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R103,104			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R107,108			RK73FB2B331J	CHIP R 330 J 1/8W	
R110			RK73FB2B201J	CHIP R 200 J 1/8W	
R117,118			RK73FB2B203J	CHIP R 20K J 1/8W	
R121,122			RK73FB2B203J	CHIP R 20K J 1/8W	
R125,126			RK73FB2B203J	CHIP R 20K J 1/8W	
R202			RK73GB2A104J	CHIP R 100K J 1/10W	
R213			RK73GB2A104J	CHIP R 100K J 1/10W	BB1B2
R213			RK73GB2A104J	CHIP R 100K J 1/10W	B3
R214			RK73GB2A104J	CHIP R 100K J 1/10W	AA1A2
R214			RK73GB2A104J	CHIP R 100K J 1/10W	A3
R218			RK73GB2A473J	CHIP R 47K J 1/10W	
R233			RK73GB2A622J	CHIP R 6.2K J 1/10W	
R234			RK73GB2A103J	CHIP R 10K J 1/10W	
S1 ,2			S68-0863-05	PUSH SWITCH	
S3			S68-0862-05	PUSH SWITCH	
S4			S68-0864-05	PUSH SWITCH	
S4			S68-0864-05	PUSH SWITCH	
D1			DAN202U	DIODE	
D2			MA8051-L	ZENER DIODE	

A : X92-4430-00 (DXM-6010W) A1 : X92-4430-01 (DXM-6011W)

A2 : X92-4430-02 (DXM-6012W) A3 : X92-4430-03 (DXM-6013W)

B : X92-4450-00 (DXM-6110W) B1 : X92-4450-01 (DXM-6111W)

B2 : X92-4450-02 (DXM-6112W) B3 : X92-4450-03 (DXM-6113W)

△ indicates safety critical components.

X92-4430-0X
X92-4450-0X

PARTS LIST

*New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

CD PLAYER UNIT (X32-5180-0X, X32-5200-0X)

Ref. No.	A d d	N e w	Parts No.	Description	P a t t o n	Ref. No.	A d d	N e w	Parts No.	Description	P a t t o n
D3			DA204U	DIODE		53	1B		J21-9678-03	MOUNTING HARDWARE (DAMPER BKT)	
D4			DAN202U	DIODE		55	1A		J90-1001-11	GUIDE (1)	
IC1	*		AN22000AA	ANALOGUE IC		56	1B		J90-1023-03	GUIDE (2)	
IC2	*		MN662773KH2	MOS-IC	BB1B2	DFPC1	2B		J84-0128-15	FLEXIBLE P. W. B. (PICKUP FPC)	
IC2	*		MN662773KH2	MOS-IC	B3						
IC2			MN662774KJ2	MOS-IC		A	2B		N09-4460-05	TAPITTE SCREW (OVAL P TAPITI)	
IC2			MN662774KJ2	MOS-IC		B	1B		N09-4472-05	MACHINE SCREW (M1.7X8.5)	
IC4			BA5824FP	ANALOGUE IC	AA1A2	C	2B		N09-6004-05	MACHINE SCREW (M1.7X2.5 IB-L)	
IC6			NJM4580M1	ANALOGUE IC	A3	D	1B		N09-6006-05	TAPITTE SCREW (PAN ST 2X3.5T)	
Q1			MCH6101	TRANSISTOR		E	2B		N09-6007-05	MACHINE SCREW (PAN M2X2)	
Q2			DTC124EUA	DIGITAL TRANSISTOR							
Q3			DTA143XUA	DIGITAL TRANSISTOR		F	1A		N09-6051-05	TAPITTE SCREW (BIND P 2X5)	
Q4			2SA1362(Y)	TRANSISTOR		G	2A		N19-2163-04	FLAT WASHER (1.6X0.25X6)	
Q5			DTC124EUA	DIGITAL TRANSISTOR		H	1B		N39-2020-46	PAN HEAD MACHIN SCREW (M2X2)	
CD MECHANISM ASSY (X92-4430-0X, X92-4450-0X)											
2	1B		A10-4827-12	CHASSIS (OUTER)		DM1	3B		T42-1066-04	DC MOTOR ASSY (SP)	
5	1B		D10-4576-23	ARM ASSY (CLAMPER ASSY)		DM2	2B		T42-1067-04	DC MOTOR ASSY (LO)	
8	2A		D10-4579-03	LEVER ASSY (ROLLER ASSY)		DPU1	2B		T25-0105-15	OPTICAL PICKUP HEAD	
10	3A		D10-4581-13	ARM (DISC L)							
11	2A		D10-4582-13	ARM (DISC L)							
12	3A		D10-4583-03	ARM (JOINT L)							
13	3A		D10-4584-03	ARM (JOINT R)							
14	3B		D10-4585-03	ARM (CARRIER)							
15	2A		D10-4586-03	SLIDER (L)							
16	3B	*	D10-4587-12	SLIDER (R)							
17	3B	*	D10-4588-03	SLIDER (TRIG)							
18	3B		D10-4595-04	ARM (LOCK)							
19	3B		D10-4596-04	ARM (ROLLER)							
22	2A		D13-2151-04	GEAR (ROLLER)							
23	2B		D13-2152-04	GEAR (HELICAL 1)							
24	3B		D13-2153-04	GEAR (SUN)							
25	3B		D13-2154-04	GEAR (PLANET)							
26	3B		D13-2155-04	WORM (2)							
27	3B		D13-2156-04	GEAR (HELICAL 2)							
28	3B		D13-2157-04	GEAR (LOAD 1)							
29	3B		D13-2158-04	GEAR (LOAD 2)							
30	3B		D13-2168-04	GEAR (PICK 1)							
31	3B		D13-2171-04	GEAR (PICK 2)							
32	2B		D13-2172-03	RACK (GEAR)							
33	2A		D14-0759-04	ROLLER (N100X3DIES)							
35	2B		D21-2382-04	SHAFT (PICK)							
36	1A		D23-0954-04	RETAINER							
37	1B		D39-0246-05	DAMPER							
38	2B		G01-3072-04	EXTENSION SPRING (TRIGGER)							
39	2A		G01-3073-04	TORSION COIL SPRING (ROLLER L)							
40	2A		G01-3074-04	EXTENSION SPRING (ROLLER R)							
41	2B		G01-3075-04	EXTENSION SPRING (PICKUP)							
42	2A		G01-3076-04	EXTENSION SPRING (JOINT SP)							
43	1B		G01-3077-04	EXTENSION SPRING (FLOATTING)							
44	2B		G02-1399-04	FLAT SPRING (CLAMP)							
45	2B		G02-1408-04	FLAT SPRING (WORM)							
51	1A		J21-9676-12	MOUNTING HARDWARE (GUIDE BKT)							
52	3B		J21-9677-02	MOUNTING HARDWARE (GEAR BKT)							

A : X92-4430-00 (DXM-6010W) A1 : X92-4430-01 (DXM-6011W)
A2 : X92-4430-02 (DXM-6012W) A3 : X92-4430-03 (DXM-6013W)

B : X92-4450-00 (DXM-6110W) B1 : X92-4450-01 (DXM-6111W)
B2 : X92-4450-02 (DXM-6112W) B3 : X92-4450-03 (DXM-6113W)

△ indicates safety critical components. 19

X92-4430-0x

X92-4450-0x

SPECIFICATIONS

Laser Diode	GaAlAs ($\lambda=780\text{nm}$)
Digital Filter (D/A)	8 Times Over Sampling
D/A Converter	1 Bit
Spindle Speed	500~200rpm (CLV)
Wow & Flutter	Below Measurable Limit
Frequency Response	10Hz-20kHz ($\pm 1\text{dB}$)
Total Harmonic Distortion	0.01% (1kHz)
S/N Ratio	93dB (1kHz)
Dynamic Range	93dB
Channel Separation	85dB

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD CORPORATION

14-6, Dogenzaka 1-chome, Shibuya-ku, Tokyo 150-8501 Japan

KENWOOD SERVICE CORPORATION

P.O. Box 22745, 2201 East Dominguez Street, Long Beach, CA90801-5745, U.S.A.

KENWOOD ELECTRONICS CANADA INC.

6070 Keele Road, Mississauga, Ontario, Canada L5T 1S8

KENWOOD ELECTRONICS LATIN AMERICA S.A.

P.O. Box 55-2791 Patilla, Plaza Credicorp Bank Panama,
Piso 9, Oficina 901, Calle 50, Panama, Rep. de Panama

KENWOOD ELECTRONICS BRASIL LTDA.

Alameda Ministro Rocha Azevedo No. 456,
Edifício Jaiú, 10o Andar, Cerqueira César, Cep 0140-001,
São Paulo-SP-Brasil

KENWOOD ELECTRONICS UK LIMITED

Kenwood House, Dwight Road, Watford, Herts, WD1 8EB, United Kingdom

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücke-Str. 15, 63150 Heusenstamm, Germany

KENWOOD ELECTRONICS FRANCE S.A.

13, Boulevard Ney, 75018 Paris, France

KENWOOD ELECTRONICS BELGIUM N.V.

Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

KENWOOD ELECTRONICS ITALIA S.p.A.

Via G. Sirtori 7/9, 20129 Milano, Italy

KENWOOD IBÉRICA S.A.

Bolívia, 239-08020 Barcelona, Spain

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (A.C.N. 001 499 074)

16 Cliffnoch Avenue, Centrefcourt Estate, North Ryde,

N.S.W. 2113, Australia

KENWOOD ELECTRONICS (HONG KONG) LTD.

Unit 3712-3724, Level 37, Tower 1, Metropiazza, 223 Hing Fong Road, Kwai Fong, N.T.,

Hong Kong

KENWOOD ELECTRONICS GULF FZE

P.O. Box 61318, Jebel Ali, Dubai, U.A.E.

KENWOOD ELECTRONICS (THAILAND) CO., LTD.

2019 New Pechbur Road, Bangkok, Huaykwang, Bangkok, 10320 Thailand

KENWOOD ELECTRONICS SINGAPORE PTE. LTD.

1 Genting Lane, #07-00, Kenwood Building, Singapore, 349544

KENWOOD ELECTRONICS (MALAYSIA) SDN BHD

#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1, 48300 Petaling Jaya, Selangor Darul Ehsan, Malaysia